EQUIPMENT PREVIEW

FOR THE CHEMICAL AND PROCESS INDUSTRIES

Volume 2

Chicago, September-October, 1939

Number 5

The Editors' Spotlight

—interesting items selected by The Editors in preparing this issue.

- Sub-Zero Valves—Operate at -150 degrees F. Used in manufacture of ethyl chloride . . . said to be equally suitable for many other extremely frigid temperatures. See item EP793, page 13.
- Glass Pump—For handling corrosives. Casing, rotating impeller and all parts in contact with corrosives of chemical resistant glass. Fully transparent. Centrifugal type. See item 890, page 24.
- Hi-Lift Pump For pumping from deep wells to elevated points. New principle "squeezes" water to destination, not turbine, plunger or injector. Pumps against high pressures. See item EP766, page 8.
- Linings for Tanks, etc.—New synthetic material, a modified Halide Polymer. Applied by plant men. Resistant to practically all acids and alkalies. See item EP765, page 8.
- Proportioning System—Measures liquid by meter, ratio of ingredients automatically controlled. For accurately compounding, blending and mixing, oils, gasoline, etc. See item EP728, page 2.
- 6. Stationary Disintegrator Engineered for gas washing in steel industry . . . adapted in other processes where an accurately controlled degree of contact between gases and liquids desired. See item EP782, page 11.
- Dehumidifier—Independent control of humidity and temperature . . . for manufacturing processes or in air conditioning for comfort. Rotary type, silica-gel adsorbent. See item EP883, page 23.
- Corrosion Resistant Fans—Plastic coat protects fan wheels against corrosive fumes. For use where extremely corrosive and highly concentrated acid or gas fume conditions exist. See item EP777, page 10.
- 9. Stretch-Wrap Machine Inexpensive method of wrapping and sealing odd shaped articles with Pliofilm, a transparent material which stretches . . . used on soap, fruit, etc. See item EP 857, page 19.
- Classifier Doubles Capacity—Practical example of classifying at 25 microns, a mineral of 2.7 specific gravity, suspended in water. See item EP776, page 10.
- 11. Flue Gas Analyzer—Automatic in operation. No measuring, no leveling, no valving, no burette reading. See item EP741, page 4.

"Yellow Magic"

..... from the Gulf Coastal Plains



One of the original sulphur vats at Bryanmound, Texas 1912

Back in 1912, the Freeport Sulphur Co. mined their first vat of "Yellow Magic" from far beneath the Coastal Plain of Texas.

First to produce sulphur commercially in the Lone Star State, Freeport applied the unique Frasch "hot water" process at Bryanmound, in Brazoria County.

Difficult engineering problems beset them from the beginning. A typical task was the building of the Grand Ecaille plant in 1932 . . . in the swamplands of the Louisiana Delta region, where no foundation for the plant could be found. Ingeniously, they erected the plant on "stilts" . . . a forest of pilings.

Today "Yellow Magic" is produced in many parts of the World, by many methods. But today, more than one quarter of the World's sulphur comes from the Gulf Coast Plains, with Freeport Sulphur Co. among the leading producers. And their key men keep abreast of new equipment developments by reading EQUIPMENT PREVIEW.

— (To secure EQUIPMENT PREVIEW for your key men, turn to 'request slip' . . . pages 12 and 13.)—

DIRECTORY ... products in this issue

You will find listed below the names of products and new literature items described in this issue, with page reference on each.

Product	age	Product	Page
Alloys, High Nickel Data. Bag Closer Bag Closer Bag Holder Bearings, Rollers Belting, Rubber Composition.	2 8 5 21	Blasting Agent Blender Blowers, Centrifugal Books, Technical, Catalog Bucket Carrier (Continued on Page 2)	20 12 24 17

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Exposition of Chemical Industries
New York--Dec. 4th -- 9th

For here "in the flesh" you will see more of the new products, the new developments in equipment specifically designed to your uses than you can find anywhere else in the World.

It's the kind of practical education that every alert production or laboratory man can capitalize to the direct benefit of his firm and himself.

Six times a year EQUIPMENT PRE-VIEW brings you the latest news of such developments "on paper." Now, in this Exposition, you "see and feel" those new products and equipment.

EQUIPMENT PREVIEW will be there to greet you. Won't you visit our booth and get acquainted?

For information on "New Solutions to Plant Problems," turn to page 9.

Pass on this copy--

When you have read this issue, remember your associates who would like to see it.

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	Vice President
	General Manager
	Chief Chemist
0	Chief Engineer
	Research Director
	Works Manager

PASS ON TO NAME CHECKED

NEW DEVELOPMENT



NEW PRODUCTS ON PARADE

The quickest, surest way to learn about new products of value to you is to see them and talk to those who produce them. View the latest products of more than three hundred progressive manufacturers displayed at this year's exposition — a pageant of chemical progress requiring three floors of Grand Central Palace.

See this combination of years of research—talk to exhibitor's engineers—observe the demonstrations—discuss your problems—examine, compare, consider, and apply what you learn. Nowhere else can you learn so much in

Management, International Exposition Co.

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m inquiring specify EP726 . . . see information request blank, pgs. 12-13



DIRECTORY ...

. . of products in this issue

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"Vest Pocket" Catalog Presents 176 **Materials Handling Devices**

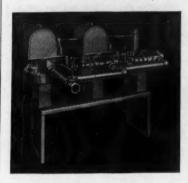
This new 172 page "vest pocket" size catalog illustrates and describes the complete line . . . 176 material handling devices. The line includes lift trucks, portable elevators, and container storage systems . . . and the new, recently introduced Barrett Torpedo Electric Hoists. "Junior Catalog No. 639" and it will be sent.

BARRETT-CRAVENS CO., Dept. EP, 3276 W. 30th St., Chicago, III.

When inquiring specify EP727 . . . see information request blank, pgs. 12-13

Proportioning System

Liquid Measured by Meter — Ratio of Ingredients
Automatically Controlled



Uses-For accurately compounding, blending, mixing of oils, gasoline and many other liquids. Features-Liquid is measured by meter. Ratio of various ingredients is positively and automatically controlled by the meters. Accuracy of meters (Bowser Xacto Meters) indicated by their approval by Sealers of Weights

and Measures in every State in U. S., and by Canadian and many foreign governments.

As only one pumping operation is required, from raw material storage tank to proportioning meter to stock tank or other destination, this system is claimed to save in handling, thus saving in power, labor and time. Also said to require much less investment in mixing tanks and to save on space requirements.

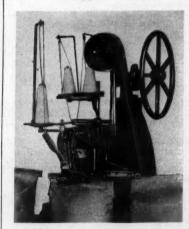
Numerous proportions or mixes are possible as proportioning mechanism permits two hundred individual settings—from ½% to 100% in steps of ½%. As proportioning mechanism controls flow of liquid from meter immediately next to it, a system comprised of three or more meters makes possible hundreds of various com-

S. F. BOWSER & CO., INC., Dept. EP, Fort Wayne, Ind.

When inquiring specify EP728 . . . see information request blank, pgs. 12-11

BAG CLOSER

Clipper Eliminates Waste Tape



Uses-For producing a tapebound, sewed closure on filled openmouth multi - wall paper bags.

Features - Complete unit can be mounted on various types of bases to fit almost any existing production set-up. Has specially designed automatic tape clipper to eliminate waste of tape. Has a mechanism which introduces a filter cord of soft cotton yarn in the seam. Description - Unit consists of a heavy

duty sewing head; tape reel and holder; tape folder; builtin, automatic tape clipper, and the yarn inserting mechanism. Tape clipper is built in close to the sewing mechanism so that it cuts tape close, leaving only a very short protruding tab on each side.

Operation—Used with power driven conveyor, machine requires one operator. Operator inserts top of filled by in the folder and starts it into the sewing head. From this point, bag is tape-bound and sewed automatically, permitting operator to direct his attention to next bag is

UNION SPECIAL MACHINE CO., Dept. EP, 442 N Franklin St., Chicago, Ill.

When inquiring specify EP729 . . . see information request blank, pgs. 1981

INSTRUMENTS OF CONTROL

New developments in control instruments for Production . . for Laboratory

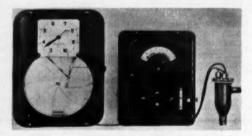
pH Recorders and Controllers

Glass Electrode Method of Measurement

This is a new line of pH recorders and controllers recently announced by this company.

Features—Instrument can be plugged into any standard light circuit, fluctuations in line voltage being automatically compensated for.

Shielded glass and calomel electrodes used for measurement and control. Shielded glass electrode completely sealed and internally shielded from electrostatic interference. Companion calomel electrode has factory-filled internal assembly, immersed in saturated potassium



chloride solution contained in outer tube of electrode. Electrolytic connection between internal assembly and solution under measurement maintained through small hole protected by ground glass sleeve.

Offered in two types: wide strip-chart and round-chart. Automatic controllers in both electric and air-operated

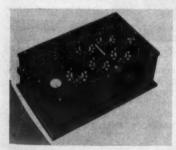
Two types of electrode assemblies: (1) Enclosed flow and (2) immersion type. Can be used in viscous or semisolid substances and in rapidly circulating or flowing liquids. Compensate for temperature changes automatically.

BRISTOL CO., Dept. EP, Waterbury, Conn.

When inquiring specify EP730 . . . see information request blank, pgs. 12-13

Thermometer Bridge

Has Constant-temperature Chamber



Uses—For extremely accurate calorimetric and other research work of interest to chemists, physicists, etc.

Features — Highly accurate measurements of temperatures are claimed by the maker from those in the neighborhood of absolute zero up to about 500

C on this Mueller resistance thermometer bridge. The instrument measures from 0 to 111.111 ohms in steps of 0.0001 ohm. It is stated that the unusually high accuracy is attained by virtue of a constant-temperature chamber for the measuring resistors.

LEEDS & NORTHRUP CO., Dept. EP, 4934 Stenton Ave., Philadelphia, Pa.

When inquiring specify EP731 . . . see information request blank, pgs. 12-18

Photoelectric Spectrophotometer

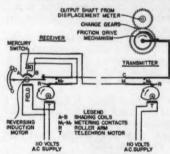
The 11th issue of "G-M Comments" describes this instrument which has been developed at the University of Chicago for quantitative chemical analysis. Other information in the bulletin includes a description of a photoelectric colorimeter, an experimental phototube relay, a photoelectric exposure meter, and other laboratory apparatus.

G-M LABORATORIES, INC., Dept. EP, 1733 Belmont, Chicago, III.

When inquiring specify EP732 . . . see information request blank, pgs. 12-13

FLOW RECORDER

Draws Graph of Flow Rate Against Time





Uses-Indicates and records instantaneous values of rate of flow as measured by displacement meters. Maker states that the device is particularly useful for recording flow rate of fluid which cannot be handled by orifice type meters. It also may be used as a tachometer for indicating or recording instantaneous speed of any rotating shaft - especially desirable for low speed (1 to 5 RPM) measure-

ments.
Features — This device differs from the usual flow recording attachment for displacement meters in that it draws a

graph of flow rate against time instead of simply recording total flow over a given time. No change is required of parts of the displacement meter for attaching the device.

Description—Attachment to displacement meter body is by use of flange bolts. Meter register is raised by filter block to afford room for bevel gears and a short shaft extension is used to drive meter register. Bevel gears drive shaft which operates the Synchro-Meter unit. Recording and indicating instruments of receiver are positioned by a reversing induction motor which runs in one direction when shading coil "A" is short circuited, and in the other direction when coil "B" is short circuited.

BAILEY METER CO., Dept. EP, 1050 Ivanhoe Road, Cleveland, Ohio.

When inquiring specify EP733 . . . see information request blank, pgs. 12-13

Thermocouples & Accessories

A 36-page illustrated bulletin, arranged in sections, describes the different kinds of thermocouples, thermocouple assemblies and parts. Schematic diagrams illustrate various methods of installation. Detailed specifications of various types are given with full information as to temperature ranges, and other thermal and mechanical conditions affecting use of special types.

THE FOXBORO COMPANY, Dept. EP, Foxboro, Mass.

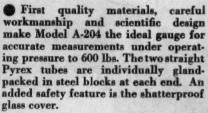
When inquiring specify EP734 . . . see information request blank, pgs. 12-13

SEND FOR HAND BOOK! Piece Out How To CONVEY-ELEVATE SAFELY, ECONOMICALLY in REDLES CONVEYOR-ELEVATORS Learn from our 40-page engineering handbook how REDLER Conveyor-Elevators can be adapted to your Material Handling requirements for greatest safety and economy. Dust-tight REDLERS convey any pulverised, granular or small lump material in any direction. Write us! FREE STEPHENS-ADAMSON MANGEMAY AURODA ILLINGIS

Conveying. Elevating. Screening. Transmission
When inquiring specify EP735... see information request blank, pgs. 12-13

MERIAM MANOMETERS

MODEL A-204 Preferred for High Pressure Indication



Easy visibility is insured, since the mercury columns and etched aluminum scale contrast sharply with the black interior finish.

To simplify maintenance, there are two removable plugs in the bottom, so that the tubes can be easily cleaned with the brush furnished.

Send for free Bulletin No. 10. It describes this manometer in detail, listing sizes, prices and available scale graduations.

THE MERIAM Co.
Instruments for Indicating Pressure or Flow
of Liquids and Gases

When inquiring specify EP738 . . . see information request blank, pgs. 12-13

"ACID-PROOF" YOUR FLOORS with DURA-TRED!



Correct the unsightly, destructive effects which mineral acids work on your floors using a single, quick, easy application of Dura-Tred over-all.

Wherever dipping, pickling, plating and etching is done—wherever nitrie, sulphuric, muriatic, and other acids or compounds like chromic, etc., are used— Dura-Tred is highly resistant. Defies damage to floors.

Easy To Apply Over Concrete—Metal—Masonry....

Dura-Tred comes to you completely factory-mixed. Apply directly from the package on floors subject to extreme acid or wearing conditions, inside or outdoors.

Bear in mind—Dura-Tred will not only combat ecids; it will handle your heaviest load without leaving any mark because it is solid-wearing service throughout. Let our Trial Offer prove that Dura-Tred will reduce your acid problems to a minimum, Wette!



Get Full Desails of Trial Offer-Descriptive Circulars-No Obligation?

DURA-TRED COMPANY

216 NORTH CANAL ST. CHICAGO, ILLINOIS

When inquiring specify EP737 . . . see information request blank, pgs. 12-13

NO MAINTENANCE

• • volved



BADGER

Corrugated Type Expansion Joints of Stainless Steel

are used to take care of expansion in process pipe lines and as connections between equipment such as turbines and condensers, pumps and lines, etc. The corrugated type of joint does not require packing.

The Stainless Steel, of course, meets the problem of corrosion and high temperature. Write for literature.

E. B. BADGER & SONS CO.

75 Pitts St., Boston, Mass.

Control Instruments (Con.)

Automatic pH Instrument

Uses standard circuit . . . automatic compensation



Uses — For pH control in sugar refineries, paper manufacturing, leather manufacturing, etc.

Features — In-

Features — Incorporates a potention of entione tentione tentione tentione tentione tentione tentione tentione amplifier. Plugs into any

standard light circuit and fluctuations in line voltage are automatically compensated for.

Glass electrodes are permanently sealed, internally shielded. May be installed on ground flow lines, tanks, vessels, etc.—giving continuous control over flowing solutions without sampling devices.

Additional indicating meters can be connected at any distance from instrument . . . also controller mechanism and any standard recording potentiometer can be connected. Automatic temperature compensator adjusts to changes in test solution. Locking device secures control panel against tampering.

Instrument available in standard range scales of 0 to 7 pH, 3 to 10 pH, or 6 to 13 pH in 0.1 divisions and in other scales and ranges on special order.

NATIONAL TECHNICAL LABORATORIES, Dept. EP, 3330 E. Colorado Blvd., Pasadena, Calif.

When inquiring specify EP739 . . . see information request blank, pgs. 12-13

Instruments for Testing Cement, Soils, and Petroleum and Its Products

Catalog EP15 has 164 pages divided into three sections. The cement section includes instruments for testing cement, concrete, mortar, lime, gypsum, etc. The soils section deals with testing mechanical stability of soils and embodies instruments used by civil engineers and subgrade and roads materials testing laboratories. Petroleum section is devoted to instruments for testing crude and refined petroleum, greases, compounds, pitch, tar, asphalt, paraffin wax, creosote, gasoline, naphtha, bitumen, etc.

AMERICAN INSTRUMENT CO., Dept. EP, 8010 Georgia Avenue, Silver Springs, Maryland.

**Fhen inquiring specify EP740 . . . see information request blank, pgs. 12-13

Flue Gas Analyzer

No Measuring . . . No Leveling . . . No Valving



Features — Automatic in operation
... no valve or leveling-bottle manipulation ... no burette readings. Tilting an alyzing unit composed of transparent plastic. Easily portable — weight 12 lbs.

Operation — Employs principle of volumetric measurement and chemical absorption. Measuring and absorption is done through use of mercury.

out a small rod, protruding from side of case, and aspirates the gas into unit by means of rubber bulb, and push in rod. Percentage of CO₂ is indicated on dial.

As rod is pushed in it tilts pivoted unit causing column of mercury to flow by gravity to push trapped gas sample into absorption chamber where CO₂ is instantly absorbed. This absorption causes sample to shrink, creating a vacuum which is effective on a sensitive metallic bellows connected to dial pointer. Entire process requires about one half minute.

This unit, called the Orsatomat, may be had with draft measuring unit and flue gas thermometer. A two-unit model is also available for CO₂ and O₂.

HAYS CORPORATION, Dept. EP, Michigan City, Ind.

When inquiring specify EP741 . . . see information request blank, pgs. 12-13

Wanted - - -News Items of New Products

If you have recently developed a new or improved product, a piece of laboratory or plant equipment or a new material, of specific interest in chemical and process manufacturing send it to our Editors.

Through EQUIPMENT PREVIEW'S editorial pages they will introduce it to this great field.... with more than 21,000 copies of this publication covering every plant.

This service costs you nothing, and there is no obligation. Just write—

The Editors, EQUIPMENT PREVIEW 737 N. Michigan Avenue

Chicago

Illinois

Insulation Test Set

Simple in Operation, Compact, Portable



Uses - For testing electrical equipment, waxes and oils, insulating materials, leakage of cables, wiring, etc. moisture content of paper, powders, etc. Description - This set, called the Megabridge, is an adaptation of the Wheatstone bridge, utilizing an electron ray nul indicator. Electron ray tube replaces the galvanometer. Operates from A.C. power line—has a self-contained D.C. supply for bridge circuit

and electron ray tube.

Operation—Simple in operation it does not require skilled operator for accurate results. To obtain resistance measurement, the pointer is rotated until the opening of the "null indicator" remains unchanged with the "detector" button depressed.

INDUSTRIAL INSTRUMENTS, INC., Dept. EP, 156 Culder Ave., Jersey City, N. J.

When inquiring specify EP742 . . . see information request blank, pgs. 12-11

If you are a responsible process executive EQUIPMENT PREVIEW will be sent to you personally if you request the publishers to do so . . . there will be No Charge.

See request slip between pages 12 and 13.

When inquiring specify EP.738 . . . see information request blank, pgs. 12-13

Precision Timers

Interval Timing to 1/200th Second Accuracy

For accurate timing of wide range of industrial processes. Measures and indicates elapsedtime intervals.

Features - Extreme accuracy is claimed by the manufacturer . . . interval timing to an accuracy of



within 1/50 of a second on certain models (A. C. clutch operation) and to within 1/200 of a second on most precise models (D. C. clutch operation).

Moderate in cost, low upkeep (does not require jeweler's attention) and large dials are other features stressed by the manufacturer.

These precision timers are powered with continuously running synchronous motor. Manual or automatic control of starting and stopping the hands is obtained by electric clutch. Resetting hands to zero is under separate control, thus permitting integration of consecutive time intervals. Power requirements are 6 watts for the motor and 6 watts for the clutch.

STANDARD ELECTRIC TIME CO., Dept. EP, Springfield,

Then inquiring specify EP743 . . . see information request blank, pgs. 12-13

Multi-Point Pyrometer

Flush Type . . . Rugged . . . Moderate Priced



Features-This pyrometer is similar in construction to the front-ofboard instrument manufactured by the same firm but is now offered in this flush type. Rugged in con-struction, it will withstand considerable vibration. Special shock resisting movement, for severe jars, furnished at nominal additional charge. Scale is 5 inches long with legible figures and subdivisions. Indicator case has specially designed and sealed back to exclude moisture, fumes and dust. Sturdy design, high torque and high quality of materials are claimed by the maker to give high accuracy, al-

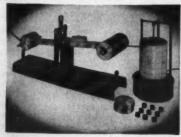
though price is moderate.

ILLINOIS TESTING LABORATORIES, INC., Dept. EP. 420 N. LaSalle St., Chicago, Ill.

When inquiring specify EP744 . . . see information request blank, pgs. 12-13 -0-

Rubber Oscillograph

Provides Autographic Record



Uses - Determining certain mechanical properties of rubber and rubber - like materials as vibration absorbers. May be used to measure static characteristics (loading and unloading; creep under a given dead load: and

set) and dynamic characteristics (energy absorption during impact loading; resilience; and effective dynamic modulus). Maker states instrument can also be used as an auxiliary to a fatigue machine to evaluate a test piece periodically throughout the duration of a life test.

Description-The oscillograph is complete in itself and provides an autographic record in a few minutes from which can be evaluated the properties mentioned above. Bulletin EP 2060 is offered by the manufacturer, upon request, for more complete technical description.

AMERICAN INSTRUMENT CO., Dept. EP, 8010 Georgia Ave., Silver Spring, Maryland. When inquiring specify EP745 . . . see . . . see information request blank, pgs. 12-13

RESET CONTROL

Independent - Used on Existing Equipment

Uses-For all processes where widely varying load conditions have made automatic control difficult or impossible. and where wider throttling ranges have developed the need for some device to compensate automatically for shifting of the control point caused by changes in the controlled process. Some applications are: fractionating towers, heat exchangers, barometric condensers, and de-

Features-This unit is independent and can be either applied in the company's "Controlograph" originally, or it may be added to existing control equipment. On applications where existing control instruments are of the wide throttling range type, and where an automatic reset device is necessary, this independent unit can be quickly installed in the diaphragm motor valve line without touching the control instrument.

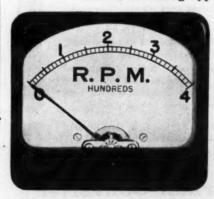
Operation-This reset control automatically returns the controlled temperature or pressure to the controller set point after a load change occurs. It begins to function immediately when a load change occurs and brings the controlled temperature back to the correct point as rapidly as the process will permit.

AMERICAN SCHAEFFER & BUDENBERG DIV., Dept. EP. Manning, Maxwell & Moore, Inc., Bridgeport, Conn.

When inquiring specify EP746 . . . see information request blank, pgs. 12-13

Electric Tachometer

Remote Indicating Type



indicating instruments for converting continuous linear or rotary motion angular into displacement. Description - Gener-ator — Field magnet is one piece of cast "Alnico" with pole faces ground for equal magnet-

Uses - Speed

tribution. Has grease seal type ball bearings. Completely closed case made of heavy aluminum. Drum type armature with close coupled windings produces smooth current flow at extremely low speeds. D.C. resistance of armature approximately 15 ohms. Output voltage at 1,000 r.p.m. is 3,000 millivolts. Each generator given a 200 hour continuous test run with output terminals short circuited before final calibration, and will maintain an accuracy of 1% or better.

Description - Indicator - Has extremely high damping factor. Scale is 3¾" long with extra heavy markings and pointer. Scales can be furnished to read R.P.M., Ft. Per Min., Gals. Per Min., Miles Per Hr., etc. Standard scale values run from 0 to 500 R.P.M. to 0 to 3,000 R.P.M. ELECTRIC SPEED INDICATOR CO., Dept. EP, 14618 Bayes Avenue, Lakewood, Ohio.

When inquiring specify EP747 . . . see information request blank, pgs. 12-13

DUSTITE Holders It's NEW . . .

Dustite Bag holder for EXACT WEIGHT Sacking Scales. Add this newest and latest feature to these well established facts Accurate weights, de-pendable trouble - free operation, no need for

check-weighing bags, speed beyond man power. All these combined features make for real production economy in dusty packaging. Write for full details and specifications for your plant.

THE EXACT WEIGHT SCALE CO. 31 W. Fifth Ave. Columbus, Ohio

When inquiring specify EP748 . . . see information request blank, pgs. 12-13

MOST COMPLETE DATA EVER COMPILED TORS AND

Now you can get new facts, latest technical information about Texrope transmission equipment and Lo-Maintenance Motors . . . in the most comprehensive compilation on motors and drives ever printed!

In 28 pages loaded with facts and figures, you can get the inside story on what motor to use for your application . . . on how to figure the drives needed for most efficient transmission of power in your plant.

Get specifications, descrip-tions, problems, illustrations, tables, diagrams and price information for all Allis-Chalmers Texrope and Lo-Maintenance Motor equip-ment. Send today for all this material . . . condensed for ready reference . . . in latest Bulletin B6029.



When inquiring specify EP749 . . . see information request blank, pgs. 12-13

Are You Exhibiting?

CHEMICAL INDUSTRIES EXPOSITION

(New York--Dec. 4th to 9th)

INVITE YOUR PROSPECTS TO VISIT YOUR BOOTH

OVER 21,000 INVITATIONS
...COST ONLY \$79.00 (or less)

How? Just place your invitation in a regular advertising Unit in the Nov.-Dec. issue of EQUIPMENT PREVIEW, (over 21,000 circulation) and

. . . . on Nov. 20th your invitations will be mailed — just two weeks before the Exposition opens.

Talk to "Equipment-Minded" Buyers---

.... they read EQUIPMENT PREVIEW for it's the only publication serving this field with comprehensive presentations of equipment developments. These are the men who will attend the Exposition and also the men who, though intensely interested, can't make the Exposition this year.

If You Are Not Exhibiting---

. . . here's your opportunity to present your products to this whole field of prospects, now, when buying interest is at its peak.

The Timing is Perfect — The Cost is Little

For more information, address-

EQUIPMENT PREVIEW

For Chemical and Process Industries
737 N. Michigan Avenue Chicago, Illinois

Control Instruments (Con.)

GAS INDICATOR

For Combustible Gases



Uses — An instrument for directly measuring the inflammability and explodibility of gasair mixtures.

Features — Small size, light weight, large meter, and ruggedly construct-

Description—Recent improvements of this instrument include battery clips of a special design which allow for expansion of the bat-

teries as they run down, thus maintaining perfect electrical contact at all times. Resistors are of a new type, wound on bakelite spools so mounted that they cannot be damaged. All working parts of this new model are attached to the top panel so that they can be removed as a unit for inspection and repair.

DAVIS EMERGENCY EQUIPMENT CO., Dept. EP, 55 Van Dam Street, New York, N. Y.

When inquiring specify EP750 . . . see information request blank, pgs. 12-13

Mercury Pressure Gauge Tube Needs No Glands or Packing

Uses—Durability of gauge makes it adaptable for rapid pressure determination under exacting conditions.

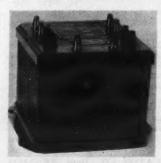
Features—Tube made of unbreakable glass substitute and is threaded directly into casting, thus eliminating need for glands or packing.

Description—Body of gauge is cast semi-steel, wide-angle visibility for reading on black-etched aluminum scale. Scale is graduated from 0 to 3½ pounds on one side and 0 to 56 ounces on the other. Bulletin 401-B2, supplied upon request, gives complete details.

CONNELLY IRON SPONGE & GOVERNOR CO., 3154 S. California Ave., Chicago, Ill.

When inquiring specify EP751 . . . see information request blank, pgs. 12-13

Thermal Converter



Uses — For measuring a-c electrical power with any potentiometer or D'Arsonval millivoltmeter. With either a direct - reflecting millivoltmeter or a potentiometer as the measuring instrument, this converter can be used (1) to measure the a-c power in an individual circuit, (2) to totalize the a-c power in a number of circuits, or (3) to tele-

meter a-c power or totalized load.

Description—This device, when connected in an alternat-

ing-current metering circuit (secondaries of a conventional set of instrument transformers), performs a proportional conversion from a-c watts to d-c millivolts. With it, a power load may be directly expressed by a d-c potential difference suited to transmission over considerable distance and for totalization.

There are no make-and-break contacts, field adjustments, or moving parts in the converter. Periodic service or operating attention is eliminated. Time of response between a change of a-c power load and the development of a proportional emf in the converter is less than 1/4 second.

THE BRISTOL COMPANY, Dept. EP, Waterbury, Conn. When inquiring specify EP752 . . . see information request blank, pgs. 12-11

Time Totalizers

Automatically Measure "On Time" of A.C.
Currents



Uses—To register actual working time of production equipment. Furnish data for planning production, figuring costs and gauging incomproducing value of equipment.

equipment.

Description — This time totalizer consists of a number of wheels geared to a synchronous motor so they record time in hours and tenths of hours. When connected

in parallel with a motor, lighting or other alternating current circuit, the instrument automatically accumulates the total "on time."

Ruggedly built and enclosed in a dustproof case.

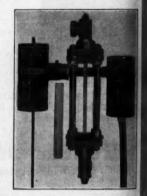
PRODUCTION INSTRUMENT CO., Dept. EP, 702-4 W. Jackson Blvd., Chicago, Ill.

When inquiring specify EP753 . . . see information request blank, pgs. 13-13

Sight Flow Meter Has Adjustable Photo-Electric Alarm

Uses—For measuring flow of gases, liquids, etc.

Features — This rotameter has connected to it a photoelectric alarm device which automatically sounds an alarm bell, horn, or a light is flashed on. Even if float drops below point where it intercepts the light beam, alarm will keep going until an operator comes and shuts it off. Entire alarm device can be slid up and down so that either a highflow or low-flow alarm will operate. With two alarm devices, one for high and one for low flow, flow can



be maintained between two given limits.

Description—One container houses light source and light from it passes through concentrating lens and then through rotameter tube. Thence, it passes to energizing plate of photo-electric cell in opposite container. Light beam is accurately focused on vertical as well as horizontal axis of rotameter tube. When float passes the light beam, it interrupts the beam and by means of a simple reverse acting relay, actuates the alarm, (or an automatic shut-off valve). A lock-in relay keeps the alarm sounding even if float drops down again below light beam.

FISCHER & PORTER CO., Dept. EP, 113 West Pens Street, Philadelphia, Pa.

When inquiring specify EP754 . . . see information request blank, pgs. 154

Push-Button Control Stations



Features-Removal of single screw exposes all terminals for easy contact and simplified wiring. Double break, silver contacts located in recessed chambers as guard against entrance of dust and dirt. Unit type construction of push-button mechanism provides easy removal from frame.

Description-Unit enclosure is reinforced bakelite cover mounted on die-cast frame. Conduit opening is provided at one end of frame. Available in single or double button types - the buttons being made of molded red and black bakelite. Available in both vertical and horizontal arrange-

ments. Units have maximum d-c rating of 1 ampere, 115 v; 0.5 ampere, 230 v; 0.25 ampere, 550 v. Maximum a-c rating: 3 ampere, 110-220-440-550 v. At small extra cost latch device available for "padlocking" the "stop" button in open position.

ALLEN-BRADLEY CO., Dept. EP, 1311 S. First St., Milwankee, Wis.

When inquiring specify EP755 . . . see information request blank, pgs. 12-13 -0-

High Pressure Manometer

Tubeless . . . Well Type

Uses-Originally designed for high pressure boiler use but equally useful for any high pressure application.

Features-Well type. Tubeless . . . it has a heavy, heat-treated glass bar backed by stainless steel backing bar which contains an accurately machined groove for liquid column. Manometer is tested at a hydraulic pressure of 4000 lbs. per sq. in.

Construction - Two channels, milled from solid steel bars, surround the backing bar and enclose the glass except for space in front where reading is taken, thus protecting instrument and giving greater safety.

Standard models in size from 15" through 40". In each size indicating column is one unbroken length, unobstructed by tie bars or glass ends. Water, red oil or mercury may be used as indicating fluids. Accessories available include an all steel control valve assembly with piping and return well.

MERIAM CO., Dept. EP, 1955 West 112 St., Cleveland, O.

When inquiring specify EP758 . . . see information request blank, pgs. 12-13

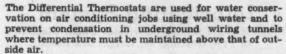
Differential Controllers

Two Bellows Assemblies Oppose Each Other

These differential controllers have two bellows assemblies that oppose each other and react to variations in the difference in pressure or temperature between the high and low pressure or temperature elements.

Uses—The Differential Pressuretrol (see illustration) can be used to control flow of steam or liquids . . . as an

alarm device on cooling water systems or as an alarm on large refrigeration condensers.



Both instruments are available in modulating as well as "make and break" mercury switch models.

MINNEAPOLIS-HONEYWELL REGULATOR CO., Dept. EP, 2950 Fourth Ave. S., Minneapolis, Minn.

When inquiring specify EP757 . . . see information request blank, pgs. 12-13

Particle Size Apparatus Determines Superfines Below 325 Mesh



Uses-For determinations on almost any substance, providing there is a medium in which substance is insoluble and a wetting agent that will disperse the particles. Examples of substances: ceramic materials, colloidal foods, diatomaceous earth, pharmaceuticals, paper coatings, fullers earth, paint, soya bean, sulphur, tooth paste, etc., etc.

Principle—This sedimentation method, based on a modification of the Werner apparatus, makes possible determination of particle sizes down to 2 microns. Grading below 2 microns is not separated but recorded as amount of superfines below 2 microns.

When dispersed particles exceed colloidal dimensions, particles tend to settle under force of gravity and rate of sedimentation offers a means of measuring particle size. Description-Apparatus consists of large glass tube, long enough to give a fall slightly over one meter. Mixing chamber for holding sample is separated from long tube by stopcock. At bottom of large glass tube, the sedimentation measuring tube, with flat bot-

tom and graduations in millimeters, is supported by an interchangeable glass stopper. A micrometer eyepiece makes possible reading sediment heights in fractions of millimeter.

PALO-MYERS, Inc., Dept. EP, 81 Reade St., New York,

When inquiring specify EP758 . . . see information request blank, pgs. 12-13 -0-

Pocket CO₂ Indicator No Valves, No Clamps, No Leveling Bottle

Features - Pocketsize, simple in operation. No valves, no clamps and no leveling bottle to manipulate. Accurate and durable. Of crystalclear plastic material.

Operation-A dozen strokes of aspirator bulb fill gas chamber with gas to be analyzed. Sampling hose is detached. Turning instrument upside down mixes gas with absorption



fluid. Absorption of CO2 creates suction, pulling absorbing fluid up into graduated tube in an amount equal to CO: absorbed. Thus its level shows percent of CO2 in the gas. Entire operation takes less than one minute. No setting required as instrument is ready for instant use. Furnished complete with aspirator bulb, filter, rubber tubing and metal sampling tube, packed in durable case which also has room for draft gauge and stack thermometer. Kit weighs about 4 lbs. . . . dimensions 81/2"x7"x33/4".

BACHRACH INDUSTRIAL INSTRUMENT Co., Dept. EP, 7000 Bennett St., Pittsburgh, Pa.

When inquiring specify EP759 . . . see information request blank, pgs. 12-13



DIAMOND CHAIN & MFG. CO.

DIAMOND **CONVEYOR CHAINS**

The QUESTION BOX:

How do I get maximum production from steam heated process units with minimum steam consumption?



JUST OFF THE PRESS!

YOU can find the answer in the new Armstrong Steam Trap Book. Ask for your copy of this 36 page compendium of useful information a b o u t steam, condensate drainage, pipe sizes, heat transfer, etc. It answers dozens of common questions such as arise continually in chemical and tinually in chemical and process plants. Ask for your copy of this new book. No obligation. ARM-STRONG MACHINE WORKS, 880 Maple St.. Three Rivers, Mich.



When inquiring specify EP761 . . . see information request blank, pigs. 12-13



AN ALL-ELECTRIC ADJUSTABLE-SPEED DRIVE FOR A-C. CIRCUITS

SPEED RANGES UP TO 12 TO 1

1 . REMOTE CONTROL

Starting, stopping and speed changing are controlled from any point to which a wire can be run.

2 · A SPACE-SAVER

Power is applied where you want it without an intervening speedchanging device.

3 . FROM A-C. SUPPLY

The advantages of this drive are now made possible at a new low price by the "packaged" V*S Speed Control Unit, connected by three wires to the 3-phase a-c. power circuit; it can be mounted anywhere.

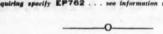


ALSO — Quick stopping, speed setting, reversing, safe speeds for threading and inching, ample starting torque for all conditions. Write for Bulletin 307.

Reliance Electric & Engineering Company 1892 Ivanhoe Road Cleveland, Ohio

Sales Offices in Principal Cities

When inquiring specify EP762 . . . see information request blank, pgs. 12-13



NEW!

Tape-Bound Closure for Paper Bags



3. Closed tape- 2. Bag in clos- 1. Open, filled

HERE is the new Union Special Style 80600 H machine for producing a secure, neat appearing, sewed tape-bound closure on all sizes of open-mouth multi-wall paper bags. The unit consists of an enclosed type heavy duty sewing head complete with folder and guide, adjustable for 2½ or 2½ inch paper tape, and the built-in automatic mechanical tape clipper. Can be mounted on several types of bases to fit into existing production systems. Complete information supplied upon request. For quotations and recommendation, state type of product handled, production per minute or per hour, size of bags, filling and weighing equipment used and power specifications. Write today for prompt answer. UNION SPECIAL MACHINE COMPANY, 442 N. Franklin St., Chicago, Illinois.

UNION SPECIAL

When inquiring specify EP763 . . . see information request blank, pgs. 12-13

Lubricating System

Single Grease Outlet Lubricates Small Machines or Few Bearings on Larger Machines

A new system for lubricating small machines or a few bearings on larger machines from a single grease outlet has been developed.

Features — This new Farval Unit consists of a multiple measuring valve block with a single inlet port and from 2 to 8 lubricant outlets



per block. As many valve blocks as are necessary to lubricate all bearings on a machine can be installed and connected in series.

Operation—The positive pressure lubrication of every bearing is accomplished by connecting a conventional type of hand or power grease gun to the grease nipple at the inlet port and moving the rotary valve handle.

In one position lubricant pressure moves the valve pistons in one direction to deliver lubricant to one set of outlets. When the valve handle is moved to the opposite position, lubricant pressure moves the valve pistons in the opposite direction to deliver lubricant to the other set of outlets.

Movement of the tell-tale indicator stem attached to each valve piston, shows the oiler that each bearing has received its measured amount of lubricant.

The amount of lubricant delivered to any pair of outlets is individually adjustable and not a bearing is missed. The new Multiple Measuring Valves contain no check valves and no springs, and are simple in design and construction.

Advantages—Advantages claimed for the new system include: certainty that regardless of location—no bearings will be neglected; labor saving, as one connection serves several outlets; assurance that each receives an exact, measured amount; lubricant saving because none is wasted; increased output by properly-lubricated machines; reduced costs for repair and maintenance; prolonged life of equipment.

FARVAL CORP., Dept. EP, 3257 E. 80th St., Cleveland, O.

When inquiring specify EP764 . . . see information request blank, pgs. 12-13

Resistant Linings For Process Equipment

Applied by Plant Men . . . Resistant to Practically all Acids and Alkalies



Uses—To line tanks or other process equipment handling acids, organic or inorganic, and alkalies.

Features — A new synthetic lining material, called Tygon, which is a modified Halide Polymer. Unaffected by practically all inorganic or organic acids, salt solutions and alkalies except Glacial Acetic and fuming Nitric. May be used,

in most cases, at temperatures up to 200 F.—above this, lining is protected by ceramic or carbon sheathings. Claimed to be immune to Hydrofluoric Acid . . . and un-

affected by active oxidizing agents and many of the hydrocarbons . . . nor affected by concentrated nitric, sulphuric, chromic, aqua regia, etc.

Application—May be applied by your own men either in the field or in your plant. No vulcanization necessary . . .

small amount of equipment required.

Generally applied to steel but may also be applied to concrete or wood. Equipment lined with Tygon handles one solution and then another. Easily repaired if damaged. Claimed not to deteriorate with age. High electrical resistivity.

Cost—Comparable in first cost with other linings.

U. S. STONEWARE CO., Dept. EP, Akron, Ohio.

When inquiring specify EP765 . . . see information request blank, pgs. 12-13

Hi-Lift Pump

New Principle "Squeezes" Water to Destination

Uses—For pumping water for industrial use from deep wells into tanks or reservoirs at elevation above surface.

Features—Embodies a new principle of "squeezing" water along to its destination—not a turbine, plunger or injector pump. Utilizes a stainless steel, helical-shaped rotor which rolls at half usual pump speed inside a cutless rubber stator bearing. Bearing is molded as an internal helix. Spiral rotor rolls in resilient stator bedring with continuous hypocycloidal motion. Positive displacement in effect. Liquid flow is uniform.

Shaft bearings are water-lubricated. No priming or pre-lubrication necessary. Can be installed at any depth in deep wells; produces from 300 to 5000 gallons per hour.

Operated by direct connected motor. Especially recommended for pumping against high pressures. Slow pump speed is claimed to give savings in power.

PEERLESS PUMP CO., Dept. EP, 301 W. Avenue 26, Los Angeles, Calif.

When inquiring specify EP766 . . . see information request blank, pgs. 12-13

Acoustic Phone Booth

Inner walls suppress noise in factories



Description — Made of plywood with walnut finished exterior. Interior of natural plywood with perforated pattern that allows noise to disappear into the sound suppressing innner wall. This construction, applied to ceiling as well as walls, absorbs noise instead of trying to block it out with a door. Open construction permits ventilation and sanifation. Illustrated booklet and prices on request.

BURGESS BATTERY CO., Acoustic Div., Dept. NR-EP, 500 West Huron St., Chicago, Ill.

When inquiring specify EP767 . . . see information request blank, pgs. 12-13

NEW SOLUTIONS OF PLANT PROBLEMS

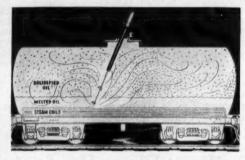
From the practical experiences of chemical and process manufacturers applying available products in new ways

Unloading Tank Cars Mixer Speeds Handling of Vegetable Oils

Problem-To speed up time and lower the cost of un-

loading 10,000 gallon tank cars of vegetable oils received in semi-solid state. Solution-Previous practice had included the melting of

contents of tank cars with steam coils. This manufacturer introduced a portable 3 H. P. mixer (see diagrammatic illustration) with long extended bearing member through the manhole cover to speed this heating process. The double action mixer circulates the melt next to steam



coils, brings the hot oil into contact with unmelted layer and so speeds the heating process and reduces oil to liquid much more rapidly.

Results-This speeding up of melting of oil obviously reduces unloading time, save demurrage and also cuts down on amount of steam required for heating. This method prevents overheating of oil and delivers it in better condition. Saves labor, for the same crew handles more cars per day. Helps avoid processing delays. More information available on request.

MIXING EQUIPMENT CO., INC., Dept. EP, 1085 Garson Ave., Rochester, N. Y.

When inquiring specify EP768 . . . see information request blank, pgs. 12-13

Adjustable Supports For Water Softeners

Provide Accurate Leveling . . . Economical

Problem-To mount water softener and water filter with minimum expense yet secure easy adjustability, for accurate leveling.



Solution-Two zeolite water softeners and an iron removal filter, in a metal processing tank, were mounted on adjustable tank supports . . . using four per unit. After all connections were made, the adjustable supports were screwed up or down, as required, to provide accurate leveling.

Advantages In addition to adjustability feature, economy was found because relatively expensive concrete or angle iron supports were eliminated. Reduced ground bearing area to minimum and allowed for easier cleaning and flushing beneath tanks.

TEMPLETON, KENLY & CO., Dept. EP, 1020 S. Central Ave., Chicago, Ill.

When inquiring specify EP769 . . . see information request blank, pgs. 12-13 ____

Have You A "New Solution"?

If you have recently solved a problem in chemical process manufacturing, through a new application or new use of your regular products, The Editors invite you to submit the facts for publication in this

In submitting your "solution" please be sure to give the pertinent facts of (a) the problem, (b) just what was done and (c) what the results were.

Send to The Editors, EQUIPMENT PREVIEW 737 N. Michigan Ave. Chicago

Glycerine-Free Salt with Minimum Dilution of Glycerine

Delivers from 3 to 31/2 Tons of Salt per Hour

Problem -This soap manufacturer had a slurry containing 65% sodium chloride by settled volume at temperature of 130 degrees F. Screen analysis of salt: 47% on 100 mesh, 5% through 150



mesh. Liquor was 58% glycerine, viscosity 108 Seybolt Seconds and specific gravity 1.26 at 25 degrees C.

Solution—Screen Type Centrifugal Filter was installed, with operating speed of 1000 R.P.M., developing centrifugal force of 333 times gravity.

Results-The filter delivers from 3 to 31/2 tons of salt per hour (dry basis) containing 0.25% glycerine and 3.75% moisture. Salt is washed with water at 195 degrees F. using 0.25 lb. water per lb. of salt. Power is 2.4 kw. per ton of salt. The filter provides a continuous rather than a batch operation. Further details available from the filter manufacturer.

BIRD MACHINE CO., Dept. EP, S. Walpole, Mass.

When inquiring specify EP770 . . . see information request blank, pgs. 12-13



BRASSERT Automatic Self-Cleaning Strainer

removes suspended solids from liquids, operates continuously and back-washes automatically. Sizes to fit lines from 2" to 30". Strainer disc openings, 1/64" to .003". Ideal where volume is large and foreign matter high.

The Brassert Strainer takes up very little space, is easily installed, saves time and money as well as costly delays. Perhaps you can profit as did one company using river water, which eliminated a daily 2-hour shut-down by installing one of our Strainers to remove suspended solids from water before it was delivered to softener. Complete and detailed information is given in our illustrated Bulletin EP. Send for it.

H. A. BRASSERT & COMPANY

110 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

When inquiring specify EP771 . . . see information request blank, pgs. 12-13 0-







IF IT'S AN

ELECTRIC TRUCK

YALE BUILDS IT!

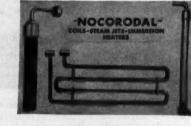
THE YALE & TOWNE MFG. CO.

Name.

Address When inquiring specify EP772 . . . see information request blank, pgs. 12-13

USE CARBON UNITS for HEATING

Hydrofluoric - Sulphuric - Hydrochloric (muriatic) Acetic - Phosphoric - Metal Salts and other corrosive solutions.



NOCORODAL Heat Exchangers also furnished.

Let NOCORODAL solve your heating prob-lem with its excellent heat transfer and acid resistance.

Many satisfied users.

Write for Bulletin stating your requirements.

COMPANY

When inquiring specify EP773 . . . see information request blank, pgs. 12-13



New Solutions (Con.)

Dehydrating Finely Ground Mica Centrifugally

Overcoming Tendency to Laminate

Problem - The finely ground mica ore, having a moisture content of 300% on dry weight basis, part of which will pass a 250 mesh screen test, tended to laminate and thus build up laminated layers on side sheet of centrifugal basket, preventing further escape of moisture. But material had to be dehydrated to low moisture content, and a production of approximately five tons per hour on a dry weight basis, per 20 hour day, was required.

Solution-Previous tests

had shown that increasing the speed and centrifugal force gave worse, rather than better results. So the following steps were taken: (1) filtration area was greatly increased, and (2) the centrifugal sedimenting action was combined with the filtering action. Equipment was of

Results—The above enabled the manufacturer to obtain 15% moisture content on a dry basis and a flow of slurry to the machine of 35 gallons per minute from a 40" machine. Thus they obtained 1800 lbs. of material per hour,

per machine. Five machines were used.

The equipment manufacturer states this same principle has been applied to other problems of like nature with similar results. Details of equipment construction, specific data on operation, etc., are available to any manufacturer having similar problems.

ROCHESTER ENGINEERING & CENTRIFUGAL DIV., Dept. EP, Norwood Station, Cincinnati, Ohio.

When inquiring specify EP775 . . . see information request blank, pgs. 12-13

Classifier Doubles Capacity

Improves Product . . . Less Floor Space Required

Problem—To classify at 25 microns a mineral of 2.7 specific gravity, suspended in water. Formerly handled with classifying tanks 25 ft. in diameter, using a dilute slurry, 12 to 14% solids. Results unsatisfactory as some particles were as large as 60 microns.

Solution-A Bird Centrifugal Classifler was installed, operating with a 25 gallon bowl capacity at 600 R.P.M. Slurry consistency was increased to 35% solids.

Results—Delivered product is free of particles in excess of 25 microns and not more than 10% of the fines gets back to grinding mills. Circulating load on mills has been built up to as high as 400%, increasing milling efficiency. Quality of product improved.

This classifier installation has doubled former capacity, yet occupies only 70 sq. ft. of floor space.

Further information available from-

BIRD MACHINE CO., Dept. EP, S. Walpole, Mass.

When inquiring specify EP776 . . . see information request blank, pgs. 12-13

To secure EQUIPMENT PREVIEW for your key men, turn to 'request slip' . . . pages 12 and 13.

Corrosion Resistant Fans

Plastic Coat Protects Against Corrosive Fumes

Uses - For use where extremely corrosive and highly concentrated acid or gas fume conditions prevail—to protect ventilating fans.

Description — For such service this fan manufacturer now offers fans whose wheels have been given multiple coats of Heresite (a phenol formaldehyde plastic) baked finish at a



temperature of 375 degrees F. The manufacturer states that extensive tests show that such treatment keeps severe acid and practically all metal corroding substances from destroying the metal to which it is applied.

For acid-moisture proof fans, Heresite coated fan wheels are of heavy gauge steel, powered by enclosed round body motors with positive winding protection against fumes and moisture. Vapor-explosion proof units have fan wheels of copper, brass or other non-ferrous metals. Non-ferrous fan wheels can also be treated with Heresite for handling corrosive fumes. Construction features of motor meet specifications of National Board of Fire Underwriters.

AUTOVENT FAN & BLOWER CO., Dept. EP, 1805 N. Kostner Ave., Chicago, Illinois.

When inquiring specify EP777 . . . see information request blank, pgs. 12-13

Resilient Floor Surfacing Withstands heavy traffic and temperature changes

Uses-For overall covering of concrete, masonry or metal floors . . . or may be used to patch cracked or worn floors. Features-This pre-mixed resilient floor-surfacing is the result of new improvements in the manufacturer's formulae. Claimed to withstand greater abuse and greater temperature fluctuations than heretofore.

A tough, ductile substance that gives industrial floors a long wearing surface. Comes pre-mixed with instructions for application directly from container . . . no extra

mixing with any other materials.

Manufacturer claims this surfacing material, called Dura-Tred, will sustain any load the under-flooring will support . . . that it possesses a low penetration quality which permits heavy loads to rest on its surface for long periods, then moved easily, without leaving marks. While material is said to be extremely tough after application, it is claimed to retain a ductility which causes surface to smooth out instead of becoming worn or pitted.

DURA-TRED CO., Dept. EP, 278 No. Canal St., Chicago,

When inquiring specify EP778 . . . see information request blank, pgs. 12-11

ATOMIZING NOZZLES

Give Uniform Distribution

Uses - Recommended for air conditioning, industrial washing and chemical processes wherever a flat, wide spray with uniform distribution is required.

Description — Spray is the flat type with uni-

form distribution, and can be had in different spray angles. Nozzles are available in 1/4" and 1/4", male or female pipe connection. Capacities range from 0.2 to 5.0



G.P.M. at 40 pounds pressure. Standard stock construction is brass with monel metal strainer-other metals can he specified. Strainer is optional in smaller capacities.

SPRAYING SYSTEMS CO., Dept. EP, 4021 West Lake St., Chicago, Illinois.

St., Universe specify EP779 . . . see information request blank, pgs. 12-13

SCOOP TRUCK

For Bulk Goods, Raw Materials or Goods in Process

Uses—The illustration shows the new construction which fits this scoop truck for special requirements in process manufacturing . . . for handling bulk goods, raw materials or goods in process.



Features-Hydraulic lifting mast with forward and backward tilt. Dual tired driving wheels under load. High speed in reverse as well as forward. Frame electrically welded throughout. No bolted castings. Straight gasoline powered. Wheel base and over-all size according to requirements of job.

TOWMOTOR CO., Dept. EP, 1255 E. 152nd St., Cleveland,

Then inquiring specify EP780 . . . see information request blank, pgs. 12-13

ODOR ADSORBER

Prevents Product Contamination from Odors



Uses-For removing all types of odors such as oil vapors. fermentation vapors and other objectionable gases from compressed air lines. Features-The unit is an auxiliary airstream "filter" of activated cocoanut shell carbon. This type of carbon, one of the most active commercial adsorption agents, will adsorb odors up to 15-20 per cent of its own weight. The maker states that the unit will remove odors and vapors

which cannot be stopped by the usual methods. Description—Heavy outer shell houses a cannister of this specially developed "filter" of cocoanut shell carbon. Made in some eight sizes with pipe connections varying

from 1" to 6", and with capacities of compressed air from

W. B. CONNOR ENGINEERING CORP., Dorex Air Conditioning Div., Dept. EP, 114 East 42nd St., New York,

When inquiring specify EP781 . . . see information request blank, pgs. 19-13

Stationary Disintegrator

Accurately Controlled in Process



Uses - Engineered for gas washing in steel industry and adapted in other processes where an accurately controlled degree of contact between gases and liquids is desired. For example, it is being used by air conditioning experts to remove objectionable odors occuring as fume in certain processes.

Features-Degree of cleanliness of air or gas can be accurately varied. Back pressure and velocity of gas or vapors passing through disintegrator controlled closely. High pressure nozzle for water or other liquids in each unit

may be changed without interruption of main operation. By multiple grouping of units, large capacities obtained in minimum space, with parallel or series flow. Requires little attention after adjustment. Quickly readjusted for changing conditions.

Description—Fundamental construction based on principle of producing concurrent flow of gas or air and of finely divided liquid spray at high velocity through a venturi tube with impingement on a surface at right angles to direction of flow. Standard rating is one disintegrator unit per 1000 cu. ft. per minute of gas or vapor measured at 60 degrees F. and atmospheric pressure.

H. A. BRASSERT & CO., Dept. EP, 310 S. Michigan Ave., Chicago, Ill.

When inquiring specify EP782 . . . see information request blank, pgs. 12-13 ____

"One Man" Trucks

Handle Drums, Barrels, Kegs, Etc.



Uses - One man with this truck can handle oil or chemical drums, wooden barrels, kegs, boxes, etc., that otherwise require several men. Operation - As trucker never touches the package - there is no nose to be pushed under - heaviest drums can be picked out of a row and moved with safety. Narrow aisles are easily traversed as truck is little wider than its load.

Construction—Steel frame securely welded. Castings of electric furnace steel. Wheels equipped with roller bearings. Load balances over wheels.

Sizes and models for loads up to 1600 lbs.

SABIN MACHINE CO., Dept. EP, 6538 Carnegie Ave., Cleveland, O.

When inquiring specify EP783 . . . see information request blank, pgs. 12-13



New CENTRALIZED LUBRICANT MEASURING VALVE

Install new Farval Multiple Measuring Valves, and grease several bearings simultaneously from one connection—with your present pressure-gass—giving every bearing an exact, measured amount—and having a tell-tale indicator show the job is done. The amount delivered to each bearing is adjustable and—not a bearing is missed.

Write for descriptive Bulletin. The Farval Corporation, 3257 East 80th Street, Cleveland, Ohio.

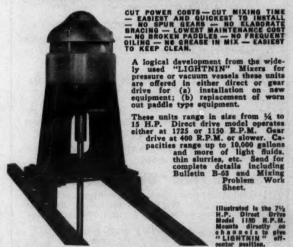
Affiliate of The Cleveland Worm & Gear Company, Manufacturers of Automotive



When inquiring specify EP784 . . . see information request blank, pgs. 12-13

CUT YOUR MIXING COSTS 10 WAYS

WITH "LIGHTNIN" PERMANENTLY MOUNTED VERTICAL MIXERS FOR OPEN TANKS



IXING EQUIPMENT COMPANY. Inc.

ROCHESTER, N. Y.

When inquiring specify EP785 . . . see information request blank, pgs. 12-13



If You Sell to Chemical Process Industries . . .

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EQUIPMENT PREVIEW

For Chemical and Process Industries
737 N. Michigan Ave.
Chicago

NEW LITERATURE

The following literature has been issued recently by manufacturers of the products discussed and is available to process production executives on request. Address requests to the publishers by using handy request form, pages 12-13, or write to the manufacturers direct.

Handbook of Engineering Data

This vest-pocket-size handbook contains a wealth of useful information for the engineer's daily convenience—the properties of carbon, table of International atomic weights, thermal properties of various materials, melting points of refractories, mechanical functions and electrical analogs, areas and circumferences of circles, four place logarithms, etc. etc. Also color maps of principal countries of the World calendars for the years 1939 to 1942 and scores of blank memorandum pages for notes. Well bound. Overall size . . . 4%"x2¾"x¾". Approx. 150 pages in all. Available on request.

NATIONAL CARBON CO., Dept. EP, Cleveland, Ohio.

When inquiring specify EP786 . . . see information request blank, pgs. 12-13

Specifications for Seamless Tubular Products

Bulletin 11-B contains specifications of manufacture, finish, workmanship, chemical and physical properties, tests, and permissible variations in weights and dimensions of tubes and pipes established for carbon steel and alloy steel tubes by American Society for Testing Materials, Association of American Railways, and specifications established by Babcock & Wilcox for high chrome and stainless alloy tubes.

BABCOCK & WILCOX TUBE CO., Dept. EP, 19 Rector St., New York, N. Y.

When inquiring specify EP787 . . . see information request blank, pgs. 12-13

Adjustable-Speed Drive Development

Six-page folder, done in colors, explains in detail the all-electric adjustable-speed drive for alternating-current circuits. Spot application pictures indicate many uses for this new drive which is now available in smaller sizes where applications prohibited cost of larger units.

RELIANCE ELECTRIC & ENGINEERING CO., Ivanhoe Road, Cleveland, Ohio.

When inquiring specify EP788 . . . see information request blank, pgs. 12-13

Heat Exchanger With Compensating Transfer Surface

Bulletin 1615 describes the maker's G-Fin Polysection—a heat exchanger with compensating transfer surface for heating or cooling fluids of low heat conductivity or high viscosity. Bulletin, illustrated by sectional drawings and photographs of design details, provides an adequate picture for service where one of the fluids, such as heavy oil or gas, has a greater resistance to transfer of heat than the other fluid, such as water or a light oil.

GRISCOM-RUSSELL CO., 285 Madison Avenue, New York, N. Y.
When inquiring specify EP789 . . . see information request blank, pgs. 12-13

Water-Lubricated Pump

Three colors have been used to illustrate this bulletin on an improved type of water lubricated pump. A cross-section of the entire pump assembly shows the water flow through the bowls and the method of double sealing the impellers. The bulletin describes the service of water lubricated pumps in capacities ranging from a few gallons per minute to more than 10,000 g.p.m.

PEERLESS PUMP DIV., Dept. EP, Food Machinery Corp., 301 W. Avenue 26, Los Angeles, Calif.

When inquiring specify EP790 . . . see information request blank, pgs. 12-13

BLENDER

Uniform "Mix" for Granular Materials



Features — Conical form of blender and rotation of unit develops a tossing action for charge instead of strictly rolling movement. This prevents separation of the different ingredients in the charge, and finer granules do not concentrate near the shell. "Mix" uniformity has been objective in product's development.

Start-stop-inching control and a solenoid operated brake permit stopping drum accurately at any position, irrespective of any eccentricity of loading which may exist

in the interior.

Description—Has stainless steel construction to protect product from contamination. Unit is 6 ft. 4 in. in diameter, and is designed for maximum charge of 2000 lbs. of dry granular material. Drum is supported on throughshaft at right angles to conical axis. This stainless covered shaft prevents distortion of the shell walls and insures true alignment of trunnions in bearings; also permits lighter drum weight with savings in materials and power. Unit is driven by gear and pinion with motor reducer from a 7½ h.p. motor, with the speed of rotation set at 10 r.p.m.

BLAW-KNOX CO., Dept. EP, Blaw Knox, Pa.

When inquiring specify EP791 . . . see information request blank, pgs. 12-13

Electric Hand Lamp

Uses—For general use where power-ful beam light is required.

Features — Extremely long battery life of more than five years.
Low operating cost. Easily focused light beam. Solid stainless steel battery container and cover. High candlepower with long range beam.

Description—
Uses Edison nickel - iron - alkaline
storage battery
with special reflector head. Made
in two models —



Model M2 develops beam candlepower of 12,000 and Model K develops 25,000. Hours of burning time are six for both models. Models come furnished with either polished reflectors for spotlighting, or matte surface reflectors for floodlighting.

MINE SAFETY APPLIANCES CO., Dept. EP, Braddock Meade Sts., Pittsburgh, Pa.

Whin laquiring specify EP792 . . . see information request blank, pgs. 12-13

For more information on any products described in this issue, use the Product Information Request Slip - - - See pages 12-13.

Sub-Zero Valves

Lubricated Plug Valve-Operates at -150 F



Uses - Recently installed for manufacture of ethyl chloride where temperatures are as low as -150 degrees F. Said to be equally suitable for handling liquid air, for use in dewaxing plants or other extremely frigid temperature applications.

Features - Steels used show minimum susceptibility to becoming brittle at extremely low temperatures. Can be used at any temperature down to -150 degrees F., where minimum impact strengths of 15 ft.-lb. Charpy are specified.

Permits operation of valve at

pressures up to 600 lbs. per sq. in. at sub-zero. Description-Since a good many parts are involved, for low temperature service . . . e.g. valve bodies . . . primary requirement is cast steel that will meet impact requirements at such low temperatures, (as given above). After casting, valve bodies are subjected to heat treatment of normalizing at 1800-1850 degrees F., oil quenching from 1500-1550 degrees F., and drawing at approx. 1200 degrees F. Castings are held at normalizing, quenching and drawing temperatures for one hour per inch of

Chrome-Molybdenum steel (SAE 4140) is used for all parts that are made from forged or wrought steel. Shank housing is designed to embody an elongated casting, permitting complete insulation around the plug shank. These valves are produced in sizes from %" to 10".

MERCO NORDSTROM VALVE CO., Dept. EP, 400 Lexington Ave., Pittsburgh, Pa.

When inquiring specify EP793 . . . see information request blank, pgs. 12-13

Corrosion Protection

Liquid Coating-Sprayed, Brushed or Dipped

Uses-For general maintenance and for protection of steel and other metals, concrete, brick, wood, etc., against many destructive forces of sure, salt air, acids, acid fumes, mild corrosion such as atmospheric expoalkalies, etc. Special types of the product are made for special condi-

Performance Tests-Maker cites accelerated laboratory tests of "Co-Res-Co.", as for example: steel, coated with this product, has been partially immersed in sea water, 12% salt water, 10% hydrochloric acid for more than one year without attack, and in

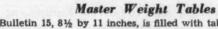
20% salt spray for 2500 hours. Aluminum coated with "Special Black", has been immersed in concentrations of 10% to 50% sodium hydroxide for more than one year without attack.

Field tests examples are: Air-conditioning manufacturer uses this coating to protect inside of scrubbing tanks from alkaline solutions; fire extinguisher maker uses product to protect fluid cartridges from water and calcium chloride: exhaust fan manufacturer uses as standard coating for protection against acid fumes and other industrial

Description-Made in black and olive green colors. Withstands dry heat temperature of 600 deg. F. and liquid temperature of approximately 150 deg. F. Dries in 24 hours with no applied heat. Coverage approximately 600 ft. per gal. Can be sprayed, dipped or brushed on. No prior treatment of metal is necessary other than removal of mill scale, loose rust, loose paint and grease.

CORROSION CONTROL CORP., Dept EP, 212 Wright Street, Newark, N. J.

When inquiring specify EP794 . . . see information request blank, pgs. 12-13



New Literature (Con.)

Bulletin 15, 81/2 by 11 inches, is filled with tables of large figures for ease in picking out weights per foot for minimum wall and average wall tubes, hot-finished and colddrawn, ranging in size from 1/16 inch O. D. with 36 B.W.G. wall to 10% inches O.D. and 1% inch wall thickness, inclusive. The material applies for round seamless steel tubing.

BABCOCK & WILCOX TUBE CO., Dept. EP, 19 Rector Street, New York, N. Y.

When inquiring specify EP795 . . . see information request blank, pgs. 12-13 -0-

Centrifugal Pumps for Chemicals

An 8-page leaflet printed in color, illustrates and describes these centrifugal pumps for handling chemicals. Detailed drawings and tables. Also a selection chart for estimating. Illustrations of pumps in actual service. Available on request.

QUIMBY PUMP CO., Dept. EP, 340 Thomas Street, Newark, N. J. When inquiring specify EP796 . . . see information request blank, pgs. 12-13 -0-

Types and Characteristics of Rubber Composition Belting

This 36 page booklet gives an interesting presentation of much information relative to rubber composition belting. Types of transmission belts are illustrated. Typical conveyor layouts are shown with drawings. Photographs illustrate many applications and numerous tables give other pertinent information covering transmission, conveyor and elevator belting . . . its selection, speeds, etc. Booklet is attractively printed in color. Available on request.

UNITED STATES RUBBER CO., Dept. EP, 1796 Broadway, New York, N. Y. When inquiring specify EP797 . . . see information request blank, pgs. 12-13

Corrosion Resistant Pipe & Fittings of Carbon, Graphite and "Karbate"

Eight pages of illustrations, description and tables present the properties and applications of Carbon, Graphite and "Karbate" pipe and fittings . . . explaining their resistance to corrosion and imperviousness to seepage of fluids under pressure. Detailed charts and graphs give lists of acids, etc., concentrations and temperatures to which "Karbate" is resistant, overall heat transfer, comparative overall heat transfer, etc. Also drawings and descriptions of fittings. Available on request.

NATIONAL CARBON CO., Dept. EP, Cleveland, Ohio.

When inquiring specify EP798 . . . see information request blank, pgs. 12-13 0

Lathe Data Chart

This convenient lathe chart gives recommended speeds for cutting steels of any range of hardness with Kennametal, a new carbide tool bit tip material. Chart also illustrates two designs for grinding tools to produce crescent shaped chips and a coiled chip of tough steel, and other similar information. Printed in black on yellow and varnished on both sides. Available on request.

McKENNA METALS CO., Dept. EP, 129 Lloyd Ave., Latrobe, Pa. Then inquiring specify EP799 . . . see information request blank, pgs. 12-13 -0-

"Chemicals By Glyco"

The 1939 edition of this maker's catalogue of chemicals has been enlarged to 72 pages. Within its 72 pages are detailed descriptions of a large list of chemicals for industry. Properties and uses are given for such items as the emulsifying agents, synthetic resins, waxes, plasticizers, the fatty acid esters of glycerine and glycols manufactured by this firm. In addition, there are suggested formulae and other useful information.

GLYCO PRODUCTS CO., Inc., Dept. EP, 148 Lafayette Street.

When inquiring specify EP800 . . . see information request blank, pgs. 12-13

THIS AUTHORITATIVE FOLDER GIVES YOU ALL THE FACTS ON NEOPRENE INDUSTRIAL GLOVES

Value and Uses of **NEOPRENE GLOVES** Send, today, for this full descriptive folder on gloves made of Neoprene — the amazing man-made rubber that resists most rubber deteriorators. It's full of money-saving facts. Every known use for

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Neoprene gloves is described and re-sults recorded for your information Perhaps, you will find the answer to your industrial glove problem — it costs you nothing so ask us to mail your copy HAVE YOU AN

INDUSTRIAL GLOVE PROBLEM In many cases, Neoprene gloves are not required. Tell us in a letter your glove problem and we will submit glove samples based on our lengthy experience of suc-cessfully serving the needs of major industries.



Write today for

the free folder on

Then inquiring specify EPS01 . . . see information request blank, pgs. 12-13



For deep wells, 4" or larger. 300 to 5000 gallons per hour. Write for new Bulletin.

PEERLESS PUMP DIVISION FOOD MACHINERY CORPORATION

Factories: Los Angeles, San Jose, Freeze, Calif., Massillon, Ohio When inquiring specify EP802 . . . see information request blank, pgs. 12-13

PILE



HIGH

to lower storage costs!

Barrett Portable Elevators—hand or electric—solve many storage problems. With them you get the most from your floor space by piling boxes, barrels, bags, bales, crates or rolls many tiers high. And they save on plant maintenance work. Models for handling dies and loading trucks from floor level; also stationary inter-floor, turntable and telescoping types. There's a Barrett Portable Elevator for every requirement of industry. Write for Portable Elevator Catalog showing application in many types of plants.

BARRETT

BARRETT-CRAVENS CO 3276 West 30th Street • Chicago, Illinois

3276 West 30th Street Chicago, Illinois Representatives Everywhere

When inquiring specify EP803. . . see information request blank, pgs. 12-13

RESIDENTIAL SURROUNDINGS

HOTEL FORT WAYNE

In addition to the superior accommodations at the Fort Wayne, guests enjoy a superb location in a residential community, yet convenient to the business districts. Hotel Fort Wayne provides economy without sacrifice of comfort or location.

300 ROOMS EACH WITH BATH

FROM \$2

THE TEMPLE AT CASS

When inquiring execute FPROA information request blank nee 12.13

New Literature (Con.)

New Chemical and Industrial Equipment Catalog

Unusually attractive is this new 20 page catalog just issued covering a wide line of laboratory and industrial equipment. Single Packing Gland Double Arm Vacuum Mixers are featured on the center spread while photographs and descriptions throughout the book show pertinent facts of vibrating sifters, tilting bowl mixers, shredders, actylators, weigh tanks and meters, etc. Covers new equipment as well as many standard items. Terse factual descriptions and effective illustrations make the book inviting. Available on request.

READ MACHINERY CO., Dept. EP, York, Pa,

When inquiring specify EP805. . . see information request blank, pgs. 12-13

Table Blast Cleaning

16-page illustrated bulletin divided into two sections showing mechanical operation of single standard tables together with general specifications, floor plans, ventilating and motor requirements for 6, 8 and 12 ft. diameter tables. Second part covers the mechanical operations of multiple spindle auxiliary type table installations. Typical installation pictures show applications of airless cleaning of flat and fragile parts—both metal and sanitary enameling work.

PANGBORN CORP., Dept. EP, Hagerstown, Maryland.

When inquiring specify EP806. . . see information request blank, pgs. 12-13

Technical Data on High Nickel Alloys

16-pages, with illustrations and charts, present technical and mechanical data on nickel, Monel, Iconel, "Z" Nickel. "K" Monel and other high nickel alloys. Separate sections are devoted to discussions of such problems as resistance to heat, to vibration, to corrosion, to spark erosion and to wear. Booklet emphasizes importance of small equipment items such as springs, bolts, contact points, etc.

INTERNATIONAL NICKEL CO., Dept. EP, 67 Wall St., New York, N. Y.

When inquiring specify EP807. . . see information request blank, pgs. 12-13

"New Paths To Profits"

This attractive, 16-page booklet, done in colors, is designed as a primer—a businessman's guide to modern plastic materials—to answer basic questions about plastics and their uses. Various types of plastics are described such as cast resinoids, laminated materials, molding materials (including phenolics, ureas, acetates and polystyrene), adhesives for plywood bonding, etc. Booklet is profusely illustrated.

BAKELITE CORPORATION, Dept. EP, 247 Park Avenue, New York, N. Y.

When inquiring specify EP808. . . see information request blank, pgs. 12-13

Air Filters

24-page catalog displays the maker's line of air filters for scores of industrial applications. Various types of filters are covered including the oil bath and "Unimaze." Application photos show uses on Diesel, Semi-Diesel, gas and gasoline engines, air compressors, hydraulic presses, pumping units, blowers, etc.

AIR-MAZE CORPORATION, Dept. EP, 5200 Harvard Avenue, Cleveland, Ohio.

When inquiring specify EP809. . . see information request blank, pgs. 12-13

Synthetic-Organic Chemicals

Thirty-two chemicals made by this firm are tabulated and discussed. Complete data are given on their chemical and physical properties, plus specifications and size and type of shipping containers.

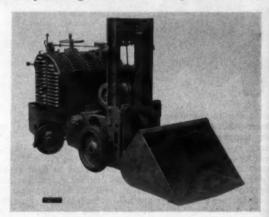
NIACET CHEMICALS CORP., Dept. EP, Niagara Falls, N. Y. When inquiring specify EPS10. . . see information request blank, pgs. 12-13

SCOOP TRUCK

Scoop Automatically Returns To Vertical

Uses—For use in transportation of bulk materials from storage to hopper; box car to storage bins, or wherever movement of bulk chemicals and materials must be effected.

Features—Operator can release carriage as soon as load is dumped and whole unit drops by gravity, the scoop automatically drawing itself to a vertical position—thus sav-



ing time. Air check cushions blow of descending bucket. Description—This special truck has two-wheel drive, two-wheel steer, and may be powered by either electric storage battery or gas-electric source. Scoop will handle 10 cu. ft. of material weighing up to 1,000 pounds. Is easily detached from truck chassis by removal of only one bolt when it is necessary to move the unit from one floor to another on elevators too small to permit access of standard trucks. The unit can turn in narrow intersecting aisles and be operated through doorways and into boxcars.

BAKER-RAULANG CO., Dept. EP, 2168 West 25th St., Cleveland, Ohio.

When inquiring specify EP811. . . see information request blank, pgs. 12-15

Siphon Filler

For Filling Cans, etc. Without Foaming



Uses — New features make it available for filling screw capped and cork finished cans of all shapes and sizes as well as ordinary cans and bottles. Especially suited for filling of inedible oils, all types of light oils, turpentine, linseed oil, polishes, water soluble floor waxes, disinfectants, etc.

Features—An improved type of automatic inlet valve can be regulated to control the pressure and therefore the volume of incoming liquid. Also governs level of liquid in reservoir which in turn controls filling

level in the containers. This automatic valve has three controls for low, medium and high pressures thus making machine adaptable to all plant operating conditions.

Operation—Liquid entering the valve passes through funnel-shaped interior of monel metal float, then enters reservoir at bottom, thus eliminating any foaming. A fully balanced bottle rest is operated via a turnbuckle arrangement affording micrometric adjustments for accurate filling.

Will fill usually foamy products, like floor wax, without

SCIENTIFIC FILTER CO., Dept. EP, 8 Franklin Square, New York, N. Y.

When inquiring specify EP812. . . see information request blank, pgs. 13-18

FEEDER CONVEYOR

No Moving and Wearing Parts

Uses—For controlling the flow of bulk solids, and is intended for small, finely controlled feeds of down to a few pounds per hour, such as is required to feed chemical reagents, articles to inspection belts, material to automatic weighing machines, etc.

Features—Provides finger tip control of rate of flow of

Features—Provides finger tip control of rate of flow of solids with entire absence of moving and wearing parts such as motors, screws, belts, discs, etc.

Description—Rated at a capacity of handling as much as 2,000 pounds per hour of 100 pound material such as sand. This vibratory feeder consists of a sheet metal trough, 18"



long by 3" wide, with tapered sides from rear to front. It is mounted on springs and actuated by a pulsating electro-magnet. Control of flow rate is by regulating vibratory action through a rheostat in separate controller supplied with each feeder. Controller, which also contains the operating switch and thermionic valve, is arranged for separate, remote wall mounting.

SYNTRON COMPANY, Dept. EP, 110 Lexington Ave., Homer City, Pa.

When inquiring specify EP813. . . see information request blank, pgs. 12-13

Sulphuric Acid Drum Of Flange Quality Steel . . . Heat Treated



Uses—Specially designed for sulphuric acid service.

Features — Constructed from two seamless shells of flange quality steel, welded together by single circumferential weld at mid-section. This weld and side bung weld are so made as to render interior of drum smooth and free of crevices.

Usual I-bar rolling hoops are attached by separate lugs welded to wall of drum. Chimes, at top and bottom, reinforced separately to protect the

head...so formed as to insure smooth, crevice-free interior. After drum is constructed, it is heat-treated to further improve its resistance to concentrated sulphuric acid corrosion.

For aqua ammonia service, this company (manufacturers of a complete line of containers) has developed a drum similar to the above sulphuric acid drum, but for aqua ammonia it is not heat treated. The inner surface is pacified before shipment to avoid discoloration of ammonia.

Both of above drums regularly furnished in 55 and 110 gallon capacities . . . are made in accordance with ICC 5A for concentrated sulphuric service and ICC 5 for aqua ammonia service.

PRESSED STEEL TANK CO., Dept. EP, Milwaukee, Wis.

When inquiring specify EP814. . . see information request blank, pgs. 12-13

How To Paint Tanks

How to paint interior and exterior surfaces and supporting structures for all types of tanks is the subject of this new folder. Compiled from the experiences of painters who have specialized in this work. Gives general instructions and surface preparations in applying tank finishes, how to paint metal, wood and concrete tanks . . . inside and out . . . how to estimate quickly surface areas and paint required. Available on request.

AMERICAN ASPHALT PAINT CO., Dept. EP, 43 E. Ohio St., Chicago, Ill.

When inquiring specify EP815. . . see information request blank, pgs. 12-13

Side Entering Mixers

The technology of mixing equipment and the application of side entering mixers are discussed in this attractive 8 page booklet. It is done in color. Well illustrated with both photographs and drawings showing mountings, etc. Charts, details of side entering mixing equipment, etc. Available on request.

MIXING EQUIPMENT CO., INC., Dept. EP, Garson Avenue, Rochester, N. Y.

When inquiring specify EP816. . . see information request blank, pgs. 12-13

Standardized Glass Lined and Stainless Steel Tanks

This 20 page, illustrated booklet in color describes standardized glass lined and stainless steel tanks that are applicable for a wide variety of mixing and storage uses. Gives dimensions and capacities of many styles of tanks and describes accessories. Numerous illustrations of installations and lists of prominent users. Also table showing resistance of tanks to various media. Available on request

METAL-GLASS PRODUCTS CO., Dept. EP, Belding, Mich.

When inquiring specify EP817. . see information request blank, pgs. 12-13

Magnetic Separators

A new bulletin describes this company's line of automatic spout drum magnetic separators. Complete specifications of various sizes are included for engineers who must adapt them to various conveying and spout systems. Available on request

STEARNS MAGNETIC MFG. CO., Dept. EP, Milwaukee, Wis.

When inquiring specify EP818. . . see information request blank, pgs. 12-13

Explosion-proof Motors

A special leaflet (2125-C) describes a line of motors that give protection in explosive, fume-laden atmospheres. The leaflet includes numerous construction and installation views showing these motors in a variety of dangerous applications.

ALLIS-CHALMERS CO., Dept. EP, Milwaukee, Wis.

When inquiring specify EP819. . . see information request blank, pgs. 12-13

Group Washing

New developments in the group washing field have been presented in a new catalog supplement. Two colors are used to illustrate and emphasize such items as the new washfountains, treadle-operated showers, shower receptors, new types of bubbler heads and new soap fixtures.

BRADLEY WASHFOUNTAIN CO., Dept. EP, Milwaukee, Wis.

When inquiring specify EP820... see information request blank, pgs. 12-13

Thickeners

0-

A new leaflet describes this company's thickeners for such applications as cyanide treatment plants, flotation concentrates, handling industrial slimes and sewage disposal plants. Diagrammatic drawing shows operation details.

DENVER EQUIPMENT CO., Dept. EP, 1419 17th St., Denver, Colorado.

When inquiring specify EP821. . . see information request blank, pgs. 12-13

Vibratory Feeders

For Solids - Rheostat Flow Control



Uses—To feed bulk solids . . . from big lumps to fine powders . . . to mixers, grinders, weighing machines, etc.

Features—No movement and the solid statements.

Features—No moving parts . . . no friction between trough and material . . accurate rheostat control of

rate of flow. Range of models from pounds to tons per hour capacities.

Electric Bin Vibrators

Power Adjustable to Desired Vibration



Uses — To keep materials — even the most stubborn, like hydrated lime, cement, wood chips, moist coal, etc.—flowing freely through bins, hoppers, chutes, etc.

Features—Built for 24 hr. per day continuous operation. Rheostat controlled adjustable power.

Write for illustrated catalog free.

SYNTRON CO.,

110 Lexington Ave.

(Advertisement)

When inquiring specify EP822. . . see information request blank, pgs. 12-13



When inquiring specify EP823. . . see information request blank, pgs. 13-13

DRACCO PNEUMATIC CONVEYORS for HANDLING N CHEMICALS • • • • GRAINS Etc.



DRACCO Pneumatic Conveyors offer the possibility of 10 ways of saving money over obsolete methods. (Described in Bulletin No. 526.) It will pay Chemical Plants to check into their handling and make this operation as efficient and economical as possible. DRACCO Engineers have reduced handling costs to the minimum for many and at the same time eliminated serious Dust hazards. Because of flexibility DRACCO Pneumatic Conveyors can be easily installed in old Plants.

The DRACCO WAY is CHEAPER and BETTER



Write for Bulletin No. 526 DRACCO CORPORATION

Successers to The Dust Recovering & Conveying Co.
4060 East 116th Street, Cleveland, Ohio New York Office: 130 West 42 Street

PNEUMATIC CONVEYORS . DUST COLLECTORS

When inquiring specify EP824. . . see information request blank, pgs. 12-13

CUT REHANDLING COSTS

Illustrated catalogs describe full line of sturdy steel frame floor trucks at

NEW LOW PRICES



One Piece Frames



Jak-Tung Trucks

able for other use.

Uses—Keep materials throughout the plant on wheels and save rehandling (loose materials, boxes crates, bags, etc.)

Features—Sturdy one-piece steel frames, metal or rubber tired wheels, Hyatt roller bearings, cast steel axle boxes and pockets, hardwood platforms.

Special Bodies—box bodies, stakes, end racks, etc., or special bodies easily built to your needs.

"Lift Truck" type handling—Jack tongue of Jak-Tung trucks picks up front of truck, moves easily to desired spot, drops and is avail-

Rubber Tires that save floors, molded-on or pneumatic, in wide range of sizes.

NEW LOW PRICES lower than many wooden frame trucks of like capacities.

Ask for illustrated free catalog.

HOMAS

TRUCK & CASTER CO.
3973 Mississippi River
KEOKUK, IOWA

Glass Melting Developments

Latest developments in luminous-flame firing for glass melting are discussed in this 14 page leaflet, bound into a strong file folder for handy use. It also gives detailed description of the TECO system for luminous flame utilization large two page drawing in color shows essential features, and other photographs and charts of information. Available on request.

TOLEDO ENGINEERING CO., Dept. EP, 958 Wall St., Toledo, O. When inquiring specify EP826. . . see information request blank, pgs. 12-13

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"Why . . Install Dust Collectors?"

"Why did you install Dust Collectors?" was asked a number of manufacturers. And their replies have been briefed in a single page, summarizing their pertinent reasons. Easily and quickly read, it gives an insight into the experiences of these concerns. Copy will be sent to interested parties.

W. W. SLY MFG. CO., Dept. EP, 4700 Train Ave., Cleveland, O. When inquiring specify EP827. . . see information request blank, pgs. 12-13

Transmission Engineering Data, etc.

Data on transmission belt engineering and other technical information are included in a new catalog which describes hundreds of mechanical rubber products for industrial use. Emphasis is given belting, hose, packing, molded rubber goods, tank linings, etc. Available on request.

MANHATTAN RUBBER MFG. DIVISION, Dept. EP, Townsend St., Passale, N. J.

When inquiring specify EP828. . . see information request blank, pgs. 12-13

Chemical and Technical Dictionary

Within its 700 pages are found over 25,000 definitions covering industrial products, pure chemicals and trade names, abbreviations, contractions, symbols used in mathematics, chemistry, thermo-dynamics, pharmacy, etc. A special section is devoted to explanation and proper naming of organic compounds. Complete cross references are used and matter of a similar nature is grouped together. Standard system of alphabetizing simplifies quick reference needs. Cost is \$10.00. Published by

CHEMICAL PUBLISHING CO., Dept. EP, 148 Lafayette St., New York, N.Y.

When inquiring specify EP829. . . see information request blank, pgs. 12-13

Variable Speed Pulleys

This two color folder embodies an engineering data sheet on the company's line of variable speed pulleys, plus descriptive material giving the major features of this product. Specifications and construction details complete the material.

THE SPEEDMASTER CO., 1301 Washington Ave., South, Minneapolis, Minn.

When inquiring specify EP830. . , see information request blank, pgs. 12-13

Flexible Couplings

32 pages (plus cover) are devoted to photographs, drawings and charts illustrating the design, construction and use of flexible couplings. Printed in color, this catalog is interesting and attractive. Features of the equipment, ratings, dimensions and prices, data and specifications are included. Available on request.

MORSE CHAIN CO., Dept. EP, Ithaca, N. Y.

When inquiring specify EP831. . . see information request blank, pgs. 12-13

Hand Tool Catalog

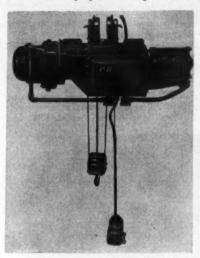
92 pages, printed in two colors, have been used to ably display this manufacturer's line of hand tools. Catalog 39 covers the full line of alloy steel sockets, wrenches and small hand tools. Price lists, specifications and detailed descriptions of the various items complete the display.

BONNEY FORGE & TOOL WORKS, Dept. EP, Allentown, Pa.

When inquiring specify EP832... see information request blank, pgs. 12-13

Explosion-Proof Hoist

Electrical Equipment Explosion-Proof Throughout



Uses - For use in oil refineries, paint mills, chemical plants, cement mills. grain mills, etc. ... or in any other plant where sparking is hazardous. Features . These P & H hoists have explosion - proof motors rated at 30 minutes 55° and explosionproof reversing starters, together with geared upper and lower limit switches and

push - button

stations. This equipment bears underwriter's approval for Class I, Group "D" hazardous locations.

Wiring is in rigid conduit with explosion-proof fittings and electric brake is enclosed in heavy cast iron cover, bolted to gear case cover. Flexible cable connection is used, with sparkproof trolley wheels.

HARNISCHFEGER CORP., Dept. EP, 4400 W. National Ave., Milwaukee, Wis.

When inquiring specify EP833. . . see information request blank, pgs. 12-11

Cellulosic Sheeting Transparent—Does Not Shrink or Expand

Uses—There are several types for various uses such as: Rigid "Inceloid" for covering windows of envelopes and cartons; soft type for surgical dressing tissue, impervious membranes and special wrappings; colored and frosted for lighting screens and color displays; silver and iridescent for decorative purposes.

Features—This transparent sheeting is proofed against water, grease, oil, air, dust, germs, mold, etc. It is non-inflammable, does not shrink or expand, and is not affected by humidity and temperature changes. All types are moistureproof and a special type for certain food packaging is moisture transmission resistant. Cements easily, quickly and permanently to itself and all other types of surfaces. Presents good surface for multi-color printing.

INCELOID CO., INC., Dept. EP, 410 Camp Street, New Orleans, La.

When inquiring specify EP834. . . see information request blank, pgs. 11-11

Vinyl Resin Sheets

No Aging-Won't Warp-Non-flammable

Uses—Typical applications: plastic bindings for catalogs and books; cosmetic jar liners; calculating scales; drawing instruments; radio, refrigerator control and instrument dials, etc.

Features—Permanence of size and shape as they do not warp and no aging, after manufacture, is required. Nonflammable and will not support combustion. Relatively inert, chemically, and inorganic acids, alkalies, alcohols and oil do not affect them. Possible to perform most usual sheet metal operations on these sheets.

Test—Moisture absorption approximately 0.05 per cent after 24-hour immersion. After week's immersion, if reaches a maximum of about 0.10 per cent, in comparison to over-all average in thermoplastic resin field of 1.5 per cent. No shrinkage or swelling will occur with humid-

When inquiring specify EP825. . . see information request blank, pgs. 12-13

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at

with "Stanzoil"

Industrial Gloves -

made of oil- and chem-ical-resisting Du Pont Neoprene, rubber-lined for comfort and flexibility. Furnished in 4 standard styles, for men and women.

ity changes. Complete immersion showed that these resin sheets retained their exact dimensions.

pescription—Sheets are composed of thermoplastic resins of copolymerized vinyl acetate and vinyl chloride. They are available in any color, transparent, translucent, or opaque. Finishes offered are calendar, matte, or high gloss. Have initial softening point of 140 to 150 deg. F. Sheets are produced in standard size of 20 by 50 in, and in standard thicknesses from 0.010 in. to 0.030 in.

CARBIDE & CHEMICALS CORP., Dept. EP, 205 East 42nd St., New York, N. Y.

When inquiring specify EP835. . . see information request blank, pgs. 12-13

Drum Type Separator Handles Both Wet and Dry Operations

Uses-This type DH, completely redesigned magnetic separator, is particularly adapted for removing impurities from finely ground materials.

Features—This senarator is now adapted to handling both wet and dry operations. It is so designed that it can be built with a multiple drum arrangement thus providing



for extraction of the most feebly magnetic particles by subsequent passing through various magnetic zones.

Description—The vibrating feeder delivers free-flowing material in a uniform layer into the magnetic field where the impurities are eliminated. The even distribution of the material allows close and intensive contact with every particle as it passes through the field. In the wet operation, arrangements are made for an under feed of the slurry, contact of the flowing material being made in a dense, highly concentrated magnetic field. Impurities thus extracted are disposed of as the cylinder rotates. conveying them out and beyond the flow where they are immediately discharged.

STEARNS MAGNETIC MFG. CO., Dept. EP, Milwaukee,

When inquiring specify EP836. . . see information request blank, pgs. 12-13

Heavy Rubber Footwear

Suction-Squeegee Soles

II ses -Originally designed as a non-skid sole for yachting, this manufacturer has applied experience to industry where wet floorin'g conditions



offer hazardous footing.

Features-Footwear has the non-skid, suction-squeegee sole which supplied complete non-skid contact on the heeling, spray-drenched decks of sail boats.

Description-Made of heavy duty work rubber in either all white or black with white "Top-Sider" sole. Two models-the other model is an all white, strap bootee, fitting snugly just below the calf, and constructed to provide both warmth and full protection against water and

THE SPERRY SHOE CO., Dept. EP, New Haven, Conn. When inquiring specify EP637. . , see information request blank, pgs, 14-13

New Literature (Con.)

Technical Book Catalog

This 36-page catalog gives short descriptive notes on scores of technical books. It covers domestic and imported books on chemistry, physics, mathematics, medicine, metallurgy, machinery, engineering, manufacturing, formularies and technical dictionaries.

CHEMICAL PUBLISHING CO., Dept., EP., 146 Lafayette St.,

When inquiring specify EP838. . . see information request blank, pgs. 12-13 ____

"Profits From Slack"

A four-page, two-color leaflet tells how to screen small sizes of dump coal without blinding. Detailed diagrams and "before and after" pictures show the mechanical features of this product. The use of rubber balls in the secondary deck compartments, below the screen cloth, has been well illustrated to show the new development.

ALLIS-CHALMERS CO., Dept. EP, Milwaukee, Wis.

When inquiring specify EP839. . . see information request blank, pgs. 12-13 ____

Power Transmission Equipment

Power transmission by means of Variable Reducer Unit-Conveyor Chains, Oneway - Indexing - Multiple Disc-Clutches, Silent and Roller Chain Drives and Flexible Couplings is discussed and illustrated in this 12 page booklet, in color. Ratings, capacity curves, etc. also given. Available on request.

MORSE CHAIN CO., Dept. EP, Ithaca, N. Y.

When inquiring specify EP840. . . see information request blank, pgs. 12-13

Laminated Shim Guide Chart

Chart is based on actual installation records showing many photographs of applications in a wide variety of uses. Applications listed are arranged alphabetically for easy reference and uses shown range from air-conditioning systems to X-ray machines.

LAMINATED SHIM CO., INC., 21-86 Forty-Fourth Avenue, Long Island City, New York, N. Y.

When inquiring specify EP841. . . see information request blank, pgs. 12-13 ____

V-Belt Data Book

This new data book is divided into two parts the first part covers standard drives eliminating necessity of working calculations and the second, sheave factors for designing new or special drives. Book also contains belt comparison tables and other general information. Available on request.

MANHATTAN RUBBER MFG. DIVISION, Dept. EP, Townsend St., Passalc, N. J.

When inquiring specify EP842. . . see information request blank, pgs. 12-13 ____

Operators Tire Handbook

Tire equipment for trucks, buses, trailers and tractors has been well handled in a 96-page, pocket size handbook. One section deals with load analysis and weights and measure tables are supplied for many types of materials. Included in booklet are complete specifications, with illustrations, of the company's tire line.

When inquiring specify EP843. . . see information request blank, pgs. 12-13 -0-

Cycloidal Liquid Meters and Motors

Bulletin 40-B15 shows operating details and types of these units as they apply in such cases as measurement of large volumes of liquids such as water, juices, syrups, tar, oil and various chemicals. Bulletin also describes how these meters can be used as liquid motors to drive a pump or feed device.

ROOTS-CONNERSVILLE BLOWER CORP., Dept. EP, Connersville, Indiana.

Hands Do More Work

"Stanzoil" Gloves protect against irritation by many industrial acids and solvents

Go all the way in hand protection for men and women who work in oils, acids or solvents. Profit by the experience of hundreds of important companies now using "Stanzoils" in daily service.

Provide "Stanzoil" Industrial Gloves and insure in advance against even slight skin irritation caused by contact with acids or other liquids in your processes.

You will profit in many ways by this care and foresight. Well-protected hands do more work and better work. "Stanzoils" help you to eliminate time and indemnity losses and occupational injuries. Their first cost is reasonable - their final "cost"

Write for details of Pioneer's liberal trial offer of "Stanzoil" Gloves. Please mention the solvents or other liquids used in your processes.



THE PIONEER RUBBER COMPANY 239 TIFFIN ROAD . WILLARD, OHIO, U.S.A.

New York . Chicago . Los Angeles

When inquiring specify EP845. . . see information request blank, pgs. 12-13

-0-

MADE WITH DU PONT NEOPRENE



which keeps thruput from contacting operating mechanism. Also eliminates need of stem packing, seat grinding. and other costly repairs and replaceFor Acids, Alkalis, Semi-Solid or Viscous Substances, Hot or Cold Water. Compressed Air, etc.

HILLS-McCANNA CO.

HILLS McCanna

When inquiring specify EP844. . . see information request blank, pgs. 13-13 When inquiring specify EP846. . . see information request blank, pgs. 12-13

READCO

NEW CHEMICAL and INDUSTRIAL EQUIPMENT CATALOG

The new 1939 READCO Catalog (just off the press) carefully illustrates and describes the almost limitless variety of Standard and Special Chemical and Industial Equipment, engineered, designed and built in READCO'S own Factory.



Laboratory Mixers
Drop Bottom Mixers
Single Packing Gland Vacuum
Mixers
Vacuum Kneaders
Shredders
Dreg Stills
Spray Blenders
Material Handling Equipment
Liquid Meters

Pilot Plant Mixers
Double Arm Mixers
Blenders and Mixers
Acetylators
Mass Mixers
Blenders
Special Process Equipment
Dustless Weigh Hoppers
Liquid Weigh Tanks

Whether your requirements call for ferrous or non ferrous metals, solid or clad, welded or cast, READCO'S Shop and Engineering Specialists are available for every phase of its fabrication. Be sure to write TODAY for your copy of the 1939 READCO Catalog.

READ MACHINERY CO.INC., YORK, PA.

When inquiring specify EP847. . . see information request blank, pgs. 12-13

FROM 2

So MUCH
COMFORT
SO LITTLE
COST

The Henry gives you accommodations and facilities to meet your hotel requirements completely – yet at a price no greater than for ORDINARY accommodations elsewhere. . Perfectly located. Surrounded by department stores – banks – office buildings.

VISIT THE SILVER GRILL
NEW, BEAUTIFUL RESTAURANT

Be sure to see the novel DOG HOUSE
IN THE
FORTUNE BAR

FIFTH AVENUE & SMITHFIELD

New Literature (Con.)

Removing Dirt or Impurities From Liquids ... Folder and Data Sheet

Just off the press... Folder describes operation and results of new device for separating materials in liquid suspension by centrifugal force. Wide range of applications claimed... removing impurities and foreign matter from liquids, such as over-size particles of clay, silica, lime, sand, scale, sawdust, etc. Device described as having no complex moving parts, actuating force depends entirely on pressure energy supplied externally by a pump, easy to install, requires little floor space and little attention but provides continuous operation. Folder and data sheet free on request.

NICHOLS ENGINEERING & RESEARCH CORP., Dept. EP, 60 Wall Tower, New York, N. Y.

When inquiring specify EP849. . . see information request blank, pgs. 12-13

Laboratory Drier

Bulletin No. 3706-C describes the product which is used for drying concentrates or other pulps in the laboratory. Specifications are given in detail for this product, plus other products for laboratory use.

DENVER EQUIPMENT CO., Dept. EP, 1419 17th St., Denver, Colorado.

When inquiring specify EP850. . . see information request blank, pgs. 12-13

"Handling Loose Materials With a Power Truck"

This colorful, four-page leaflet gives large illustrations of power trucks in action . . . scooping loose materials, transporting and dumping . . . thus effectively picturing operation. Also describes the Elwell-Parker Unit and explains variety of attachments for handling loose materials in friable condition or in sizes suitable for ready handling . . . e.g. dry chemicals in bulk, complete fertilizers, ammonium sulfate, ammonium superphosphates, nitrates and potassium salts, soda ash, stoker coal, etc., etc. Available on request.

ELWELL-PARKER ELECTRIC CO., Dept. EP, St. Clair Ave. E. Cleveland, Ohio.

When inquiring specify EP861. . . see information request blank, pgs. 12-13

Data and Catalog of Steam, Air, Refrigeration Traps

This new bookklet of 36 pages (8½"x11"), profusely illustrated with photographs, diagrams, charts and tables is in three sections. (1) Catalog listings, illustrations and descriptions of steam traps, air traps and refrigeration traps (2) Sizing information to simplify calculation of condensate formed in steam heated equipment and selection of proper traps (3) "Recommended Practices," including specific suggestions for power plants, low pressure heating systems, vacuum return systems, etc. Booklet available on request.

ARMSTRONG MACHINE WORKS, Dept. EP, Three Rivers, Michigan.

When inquiring specify EP852. . . see information request blank, pgs. 12-13

Aluminum Paint Ready-Mixed For Rusted Fence

Used—The manufacturer announces this new aluminum paint as specially formulated for painting rusted chain link fence without removing the rust.

Features—Uses penetrating type base oils which creep into joints and contact points to seal rust against further corrosive action. Maker states rust need not be removed. Description—Pigment used is Alcoa Albron Paste mixed at the factory to insure better dispersion of metal particles for a brilliant, silvery durable finish. The paint may be applied with brushes or spray gun. This product is said to dry from the "outside," retaining a firm elasticity able to withstand movement of the joints without chipping.

THE SKYBRYTE CO., Dept. EP, 3125 Perkins, Cleveland, Ohlo.

When inquiring specify EP853. . . see information request blank, pgs. 12-13

BUCKET CARRIER

Pivoted — Overlapping



Uses—For handling, elevating, conveying of coal, ashes, stone, ce ment clinker, Fuller's earth, phosphaterock and other materials.

Description — Buckets are pivotally

suspended between two strands of chain, thus always being in an upright position except when they are being discharged by automatic dumper. This arrangement permits a single carrier to carry the material horizontally, vertically and again horizontally. The machine is slow moving, requiring but minimum power. Catalog 1720 gives complete details.

LINK-BELT CO., Dept. EP, 307 N. Michigan Ave., Chicago, Ill.

When inquiring specify EP854. . . see information request blank, pgs. 12-13

CHLORINE MASK

Quickly Put On Or Removed

Features—Light in weight and comfortable, this mask gives maximum working freedom to wearer. Quickly put on or removed. New canister developed solely for chlorine service gives protection over longer period than previous types. Approved by U. S. Bureau of Mines.

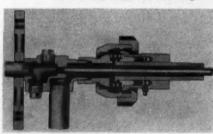
MINE SAFETY APPLI-ANCES CO., Dept. EP, Braddock, Meade & Thomas Sts., Pittsburgh, Pa.



When inquiring specify EP855. . . see information request blank, pgs. 12-11

REVOLVING JOINTS

Has Only One Revolving Part



Uses— For attaching 6 fluid conducting pipes to or from revolving drums or members. Used as a means of supplying steam, gas

or other fluids from a fixed stationary supply pipe.

Features—Joint is unique in that it has only one revolving part—the rotating sleeve. Gasket wear reduced to minimum as angular movement is taken care of by two compensating balls which do not revolve on their gaskets or seats.

Description—These joints have universal movement taking care of eccentricity and end play. Incoming and outgoing fluid into and out of the drum through one opening. Unit is shown with syphon adapter.

BARCO MFG. CO., Dept. EP, 1801-15 Winnemae, Chicago, Illinois.

When inquiring specify EP856. . . see information request blank, pgs. 11-10

For The Chemical and Process Industries

New Chemicals New Equipment

New Materials **New Applications**

-of special interest in

Chemical and Process Manufacturing

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PUTMAN PUBLISHING COMPANY 737 North Michigan Avenue SUPerior 7658

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SEPTEMBER-OCTOBER, 1939 22,800 Copies of This Issue

... covering all manufacturing plants in Rubber, Chemicals, Paint, Glass, Explosives, Fertilizers, Rayon, Brick and Tile, Plastics, Soap, Paper, Glue, Brewing, Distilling, Sugar, Coke, City Water Treatment, Oil Refining, Leather Tanning, Cement, China and allied lines.

VACATION ... GOODBYE

The period just closing has been one in which many of us have had something termed a va-

From what did we take a va-cation? And what was our objective as it was taken?

It is usual for many of us to leave our customary labors for a period each year, and in some other locality, seek something other than routine activities to engage our attention. Some of the incentive for this lies in the desire, inherent in all of us, to explore new territory and engage unaccustomed pursuits, some

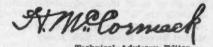
of it comes from the desire to escape, for a period, the tasks confronting us day after day. It is realized that no matter how much we may love our work, and most of us do, a relaxation from it brings us back to it keener, brighter and more enthusiastic. believed that most of the men who may read this editorial are engaged in the type of work they like to do and that there is little which is monotonous in it, as each day brings

Granting that we like our work and have a keen interest in it, there yet remains considerable to be said in favor of vacations.

During the vacation most of our activities have been physical rather than mental, our health has improved, our bodies are tired and our brains are rested. We have per-haps forgotten our former lines of attack on the problems which confronted us so that we return to them with a mental freshness which usually brings results.

It is believed that our vacation objective should be general rather than specific. Arrange to visit new locali-ties. A carefully planned vacation operating on a time schedule can be as deadly as any other occupation with an inflexible routine.

Most vacations are planned for and taken in the summer, has this any direct connection with the increase in business activity occurring each autumn?



Stretch-Wrap Machine

Wraps and Seals Articles of Various **Shapes in One Operation**

Uses-Provides an inexpensive method of wrapping and sealing various articles of miscellaneous shapes, such as soap, fruit, etc.

Features—Uses wrapping material called Pliofilm, which is transparent, stretches when heated, is strong, gives strong resistance to puncture when stretched. Thus application to irregular shapes is an easy matter. Pliofilm self-seals when heated and the machine wraps and seals in one operation.



Finished skin tight covering is transparent, showing product, and is impervious to air, etc.

Manufacturer claims this machine increases speed of wrapping . . . in some cases speed increase as much as 10 to 1. Savings in material used is also claimed, and it is stated that savings up to 300% have been effected.

The machine is particularly recommended by the makers for operations where volume is not large enough to warrant an automatic machine.

GOODYEAR TIRE & RUBBER CO., Dept. EP, Akron, O.

When inquiring specify EP857. . . see information request blank, pgs. 12-13

Electrically Operated Valve

Automatic or remote control of liquids or gases



Uses-For difficult, continuous operations on steam up to 150 lbs. pressure or where accuracy of operation is required such as automatic timing devices and temperature controls. Also applicable on automatic or remote control of liquids or gases.

Features - Only three moving parts. Light weight. No bracket required. Low current consumption. Durable no weights, levers or packing. No wire drawing on steam. Full flow from %" to 3", pipe sizes on pressures up to 300 lbs. Closing speed may be varied to suit individual requirements, giving flexibility and wide range of uses.

Description — Line pressure is the main actuating force, acting on a piston. No link-

age of three moving parts. Coil lifts pilot valve only at all pressures. Non-metallic valve discs. No regrinding. Parts of bronze and stainless steel. Plunger corrosion resistant. All parts accessible without removal from line. Electrical connections can be placed in any desired di-

E. C. ATKINS & CO., Dept. EP, Indianapolis, Indiana. When inquiring specify EP858. . . see information request blank, pgs. 12-13 When inquiring specify EP860. . . see information request blank, pgs. 12-13



on Abart Speed Reducers to give maxi-



mum service at lowest cost. For they are made right, accurate and to lastthey use less power and operate with less noise and greater efficiency. If you use, design or specify production machinery in the chemical industry - or supervise its operation, ask for Abart's complete catalog. GEARS: Cut to B/P or specifications. Accurate — high quality. Let us quote on your requirements.



When inquiring specify EP859. . . see information request blank, pgs. 12-13

HUMIDIFIERS

LOW COST-Moderately priced units with large capacity make installations feasible for many plants that have never before enjoyed the benefits of humidification.

SIMPLE INSTALLATION-All you need is a supply of low pressure steam and ordinary electric current — two pipe connections and a simple wiring circuit connecting humidistat with solenoid valve on humidifier.

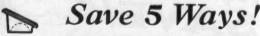
TIME TESTED-Prominent users in many branches of industry. They report quiet, de-pendable, effective and economical operation.

Write for information.

Armstrong Machine Works

Humidification at a Cost You Can Afford!

SIMPLEX ADJUSTABLE TANK SUPPORTS



Your tank installations can be made with greater economy and efficiency if Simplex Adjustable Tank Supports are used. They

- Costly, unnecessary cast or fixed cradles are eliminated.
- Adjustment of tanks for leveling and gravity flow is simple, positive and permanent.
- Simplex saddles welded to the tank or cradle band at the tank shop minimize installation cost.
- Air circulation and temperature control are greatly facilitated.
- Feed and drain pipes are readily accessible, and the open floor provided, facilitates flushing, obviating bacterial pockets.

Simplex Adjustable Tank Supports are available in 28 sizes with 12 types of saddles (5 shown on left) for better, cleaner, safer, more flexible support of metallic, wood or ceramic tanks, vats, etc.

Bulletin 835 containing engineering data and installation drawings will be mailed upon request.

TEMPLETON, KENLY & CO.

CHICAGO

Sole Manufacturers

(4)

SIMPLEX
GOLD MEDAL AWARD SAFETY JACKS

When inquiring specify EP881. . . see information request blank, pgs. 12-13



SEND FOR ILLUSTRATED COUPLING FOLDER

OVER FIFTY YEARS MAKERS OF ALL TYPES OF SPEED REDUCERS AND CUT GEARS

D. O. JAMES MANUFACTURING CO.

1120 WEST MONROE STREET .

CHICAGO, ILLINOIS

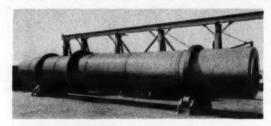
QUIPMENT PREVIEW

ROTARY DRYER
Cast Tooth Construction of Large Gear

Uses—The dryer illustrated is to be used for drying bicarbonate of soda before the soda is furnaced in a light ash furnace for conversion into soda ash.

Features—Large gear in this design is of cast tooth construction which eliminated any machining of gear teeth. Tires and trunnion beds were also cast in "Meehanite" on later dryers to prevent uneven and rapid wearing of these parts.

Description—This dryer is 84" in diameter and 55' long, one of seven built for a large West Coast chemical company. The large gear, which measures 9'3" in diameter,



has 114 teeth and an 8" face, and is cast in Meehanite in order to secure proper wear resistance and a 50,000 lb. p.s.i. tensile strength. The gear is bolted to a "T" ring of the same metal, having been cast in a "T" shape and the "T" being machined and bored for a machine fit. Checking with templates revealed job to be true, round and very accurate in pitch diameter as well as in circular pitch.

Refer to MEEHANITE RESEARCH INSTITUTE OF AMERICA, INC., Dept. EP, 311 Ross St., Pittsburgh, Pa.

When inquiring specify EP863. . . see information request blank, pgs. 12-13

Air Release Valves

Automatically Vent Air From Liquid Conduits

Uses — To rid pipe lines, or other closed vessels, of air or other gases — for brine lines, water mains, heating systems or other lines of tanks under pressure.

Description — Line of valves consisting of three types: (1) Standard Silvertop

Standard Silvertop in six sizes, from ½" to 2" inclusive for pressures up to 250 lbs. per sq. in. (2) Forged steel Silvertop for use on high pressures up to 1,000 lbs. per sq. in. Made in three

sizes with pipe connections of ½", ¾", 1", 1¼", 1½" and 2". (3) No. "0" made in ¾" size only for maximum pressure of 150 lbs. per sq. in.

Operation—Unit consists of valve seat, a lever and ball float inside of case. Inlet is at bottom and air vent at top. Liquid raises the float, and holds valve closed. A liquid is necessary to actuate the float; steam or other gases will not. An accumulation of air or gas low-

ers the liquid level causing float to drop. This opens the valve and vents the air or gas. In operation, these valves are placed at the high points in the pipe line (the natural air centers) where accumulations of air are vented, eliminating air-binding.

V. D. ANDERSON CO., Dept. EP, 1938 West 96th Street, Cleveland, Ohio.

When inquiring specify EP864. . . see information request blank, pgs. 12-13

Electric Heating Element

Uses — These
"Flasheat" heating
elements are standard equipment on
all Patterson Electrically Heated Kettles and are also
available for use
as heating elements
with other vessels,
chemical apparatus, etc.

Features—No necessity for pre-forming to fit shape of kettle or other body to be heated. Can



be immediately replaced without removal of insulating jacket from kettle or other receptacle on which element used. The maker claims (a) more rapid heat-up (b) more heat concentration per unit area when desired (c) rapid water cooling (d) longer life.

PATTERSON FOUNDRY & MACHINE CO., Dept. EP, East Liverpool, Ohio.

When inquiring specify EP865. . . see information request blank, pgs. 12-13

BLASTING AGENT

Safer to Handle and Use for Reflection Shooting

Uses—For seismic prospecting by the reflection method. Features—Company states that this blasting agent is safer to handle and use than gelatin dynamites normally used for reflection shooting. Cannot be detonated by strongest commercial detonators, Cordeau or Primacord detonating fuse, by flame or heavy blows. Rifle bullet impact will not detonate the charge, hence the safety feature. Agent is packed in sealed cans, handling becomes a clean operation, and it will retain its maximum blasting efficiency under water. It is non-freezing under any temperatures, and is economical in use.

Performance—Field tests show that comparable seismograph records are obtained when given weight of 60% gelatin is replaced with an equal or slightly less weight of "Nitramon" S and primer. In additional field tests the primer can and protective shield for the electric blasting cap have withstood more pressure than is applied by three men poling a charge in a shot hole. Laboratory tests indicate that pressures greatly in excess of this can be applied without detonating the primer unit.

Description—"Nitramon" S is packed in two sizes: 2 inch diameter x 1 pound and 2½ inch diameter x 1½ pounds. Former is 6½ inches long, the latter 6¼ inches. Both size cans are packed in cases of 50 lbs. net weight. Special primers, also packed in cans, must be used with each charge to initiate the "Nitramon" S assembly. Strength of primer is equivalent to that of one pound of 60% gelatin, and primer alone should be used for shots requiring only one pound of explosive. Cans can be joined together to form a single unit column of any height.

E. I. DuPONT de NEMOURS & CO., Dept. EP, Wilmington, Delaware.

When inquiring specify EP868. . . see information request blank, pgs. 12-13

SPRAY HOSE

Resists Deteriorating Action of Spray Solutions

Uses—Designed for high pressure, heavy duty work.

Description—This 800-pound hose is made of a high-grade tube that resists the deteriorating action of spray solutions. It is composed of three braided plies of superstrength yarn, specially designed for high pressure work. The cover is of black, abrasive resisting stock. Sizes available are \%", 7/16" and \%", inside diameter.

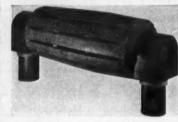
NEW YORK BELTING & PACKING CO., Dept. EP, I Market Street, Passaic, New Jersey.

When inquiring specify EP867 . . . see information request blank, pgs. 13-13



Acid-Resisting Bearings and Rollers

Uses-Maker states that rollers and bearings have been used in pickling tanks for steel and non-ferrous metals. and the bearings used on agitators in mash tanks and steam cookers of distilleries and breweries; in the



paper industry and various other types of chemical applications.

Performance-Picture shows a roller and bearing assembly after 11 months service in an electrolytic pickling bath. Both rollers and bearings were submerged in the acid and subjected to the combined effect of hot, dilute sulphuric acid, iron sulphate, electrolytic action, and mechanical wear and shock. Pickling acid was the only

Description-These bearings and rollers are precision moulded of non-metallic materials-to resist acids and organic solutions. They are made in a wide range of shapes and sizes for easy application with minimum change-over cost.

GATKE CORP., Dept. EP, 228 N. La Salle St., Chicago, Ill.

When inquring specify EP868. . . see information request blank, pgs. 12-13

RESPIRATOR

Low-Resistance, Twin Filter Type



Uses - For protection against both Type A and lead dusts.

Description - Employs a small rubber form-fitting face piece so designed as to permit the wearing of goggles or spectacles without visual interference. Two "Rotiform Filters," each with 30 square inches filtering surface, minimize breathing re-

sistance. Has Bureau of Mines Approval No. 2127. WILLSON PRODUCTS, INC., Dept. EP, 417 Thorn Street, Reading, Pennsylvania.

When inquiring specify EP869. . . see information request blank, pgs. 12-13

Adjustable Lamp Socket

Eliminates Problem of New Lamp Sizes

Uses-When sizes of electric lamps are changed, and when such changes affect the overall dimensions of the lamp, it means that the light center is in a different position when the lamp is installed in a reflector thus impairing the nor-mal amount of illumination. To overcome this obstacle, and to protect against future changes,





this adjustable socket has been developed.

Features Provides vertical adjustment for proper posi-

tioning of lamps in reflectors. Can adjust to four positions by pressing slotted prongs.

Description—This adjustable socket is offered in two sizes for medium or Mogul base and for keyless or pull-chain. Has cast aluminum nut and metal fittings heavily cadmium plated. Socket is approved by Underwriters.

GOODRICH ELECTRIC CO., Dept., EP, 2900 N. Oakley Ave., Chicago, Ill.

When inquiring specify EP870. . see information request blank, pgs. 12-13

Drum and Barrel Discharge Elevator



Uses-Designed to handle material in round containers of a wide range of sizes - wood, metal, fibre and other materials.

Description - Light and portable, it is both an elevating and emptying device. Container can be lifted to any practical height and contents emptied into hoppers, processing equipment or trucks. Mechanical clamp provides for quickly and securely stripping container to elevator arms, and a slight touch by the operator is all that is necessary to tilt container after it has reached the proper height. Container

clamps and tilting device can readily be adapted to present electrically or hand operated Barrett Elevators of any capacity or height.

BARRETT-CRAVENS CO., Dept. EP, 3255 30th St., Chicago, Ill.

When inquiring specify EP871. . . see information request blank, pgs. 12-13

Box Wrenches

Heavy Duty-Interchangeable Tubular Handles

This new line of heavy-duty box wrenches with interchangeable tubular handles includes the following: Double-Offset Type-

Made in both double offset and 15-degree angle type, they are drop-forged of chrome - alloy steel,



heat treated and heavily plated, with polished heads. Each type is made in seven sizes with double hexagon openings ranging from 15%" to 21/4".

15 - Degree Angle Type - Designed for breaking loose or tightening large di-



ameter nuts with a minimum of effort. Especially useful for work on trucks, buses, tractors, steam shovels, road and industrial machinery, etc.

Interchangeable Handle-One size handle is all that is needed



for the set of 14 wrenches. Thirty inch length provides extra leverage needed in turning large nuts. Holes are provided in each end of handle to insure positive locking on the "springball" plunger in end of wrench shank. Both types of wrenches are interchangeable in the handle and the combination of any two can be used to make a double-end wrench.

BONNEY FORGE & TOOL WORKS, Dept. EP, Allentown, Pa.



One Towmotor lift truck tends 24 cullet hoppers at a Toledo glass plant. Hopper is 48 x 60 x 60 inches. Average weight of loaded hopper is 4500 lbs. Prevents spillage, speeds up removal of waste materials and cuts handling costs. Towmotors use forks, scoops or hoppers in chemical, ceramics and process industries. Straight gas power, smooth hydraulic lift and lowest cost per ton handled for 20 years. Write for literature and specifications today.

TOWMOTOR CO., 1255 E. 152nd St., Cleveland, Ohio

Sales Offices in 22 Principal Cities When inquiring specify EP873. . . see information request blank, pgs. 12-13

ROBINS Improved

Rigid Troughing Idlers for Belt Conveyors

- Strength and Rigidity
- Low Maintenance, Long Life
- **Reduced Belt Wear**



- Rigid Truss Construction, and malleable iron brackets give Strength and Rigidity.
- Thorough Lubrication through Robins Patented Single-Shot System, new improved triple seals, and protection against dirt and water give Low Maintenance and Long Life.
- Balanced Pulleys, close gaps, and non-fouling bracket design give Reduced Belt Wear.

NS CONVEYING BELT COMPANY

15 Park Row, New York, N. Y.

Offices in Principal Cities. Send for descriptive literature.

When inquiring specify EP872. . . see information request blank, pgs. 12-13 When inquiring specify EP874 . . . see information request blank, pgs. 12-13

It's 10 to

Signode "Bulkbinding" Will Cut Your **Loading Costs and Damage Nazards**



• This modern, engineered method of bracing carload shipments for safer, more economical and convenient handling has a wide variety of practical application for oil, paint, chemical, as a matter of fact, all processes. The Signode System is being applied in over 300 different industries—and in every case paid dividends.

Signode Tensional Steel Strapping secures the load in the desired position, eliminates the need for heavy bulk loading, that costs more to install, increases the damage you pay for . . , permits absorption of transit shocks without damage.

or transit snocks without damage. Let us send a Signode representative to check the possibilities of Signode "Bulkbinding" for your carload shipments. It's 10 to 1 he'll be able to show you the way to substantial savings on material and labor . . . and the possible advantages of reduced freight charges and damage claims. Write us, stating the products you ship.

STEEL

2607 North Western Avenue, Chicago, Illinois 270 Furman Street, Brooklyn
455 Bryant St., San Francisco
40 OFFICES THROUGHOUT UNITED STATES AND CANADA

When inquiring specify EP875. . . see information request blank, pgs. 12-13



Combines everything that Florida can offer-in climate, sports and social diversions-golf on its two famous 18 hole courses, tennis, trap and skeet shooting, saddle horses, salt water pool and sea bathing, dancing, fishing and boating . . . moving picture theatre and smart New York shops . . . excellent cuisine and service.

AMERICAN PLAN . . . \$9.50 a day and up EUROPEAN PLAN . . . \$6.00 a day and up

The Gotham

The Drahe

The Blackstone

The Evanshire

The Town flouse

A. S. Kirkeby lanaging Director

Belleview Biltmore BELLEAIR FLORIDA

When inquiring specify EP876. . . see information request blank, pgs. 12-33

Propeller-Type Fan Motor Entirely Outside Airstream

Uses - For spray booth work or other installations where inflammable fumes. extreme heat or abrasive or corro-

sive elements are present. Features - Incor-

porates patented Charavay Over-lapping Ring, which is designed to prevent backflow of air at propeller tips, thus increasing delivery of air.

Base on which motor rests is welded to this ring, and also to a shield below it which encases the

belt. Shield is so shaped to present minimum resistance to air flow. Propeller shaft bearings entirely enclosed within housing welded to bottom of belt shield . . . two double steel supporting rods are also welded to both housing and ring.

This new fan is built in standard sizes from 17" to 28" propeller diameter. Other sizes quickly available at your

HARTZELL PROPELLER FAN CO., Dept. EP, Piqua, O. When inquiring specify EP877. . . see information request blank, pgs. 12-13

SANDCUTTER

For Small and Medium Sized Foundries



Uses - Meets requirements of small and medium sized foundries having light to moderately heavy floors which must be aerated and cut economically.

Features Operates in close working quarters and on soft floors without difficulty. Maximum maneuverability. Built in two stand-

ard sizes, with cutting cylinders of 45 in. and 50 in. in length. Powered with two electric motors - one for operating cutting cylinder, the other for ground travel. Though small in size and moderate in price, these models have all essential sandcutter features.

AMERICAN FOUNDRY EQUIPMENT CO., Dept. EP. 555 Byrkit St., Mishawaka, Indiana.

When inquiring specify EP878. . . see information request blank, pgs. 12-13

Aluminum Conveyor

TERRET IN

Non-sparking . . . Will Not Rust . . . Portable

Uses - Particularly suited for uses where liquids spill from open containers.

Features - Made of 61 S. T. Alcoa Aluminum. Light in weight and readily

portable yet has high tensile strength. Its non-sparking, non-rusting qualities make it particularly suitable in process work

Equipped with steel ball bearing wheels fitted on an

eccentric axle at each end of conveyor. With wheels in "down" position, conveyor is easily rolled from place to place - with wheels "up," rests firmly on floor. One or two people can move.

Supplied with or without legs and with or without wheels on legs. Model shown is 10 ft. long, 14 in. wide, weighs 60 lbs. Available in varying widths, lengths and heights as desired.

ALUMINUM LADDER CO., Dept. EP, 120 Adams St. Tarentum, Pa.

When inquiring specify EP879. . . see information request blank, pgs. 12-13

"Saf-T-Flame" Gas Pilot Eliminates Danger from Pilot Failure

Uses-This unit is designed to protect any gas or oil-fired appliance using a gas pilot against damage which might result by failure of the pilot. That is, it is designed to prevent explosions and eliminate fire hazards.

Features-In the event of pilot failure, fuel supply is instantly and completely cut off. Operates on electrical flame conduction and is not dependent upon heat. Has no radio tubes requiring frequent replacement. Ignites electrically from its own electrodes, thus being self-lighting. Flame fluctuation has no effect. Ground out protection is provided.



Operation—By placing suitable electrodes in the pilot gas flame, a small electric current will flow across pilot flame and will cease when flame is extinguished. This current is used to operate through a relay to control electrically operated valves in the fuel line. Thus, when pilot is extinguished, entire fuel supply is cut off instantly. Electrode arrangement is such that pilot flame fluctuation or wavering cannot break the circuit to cause premature tripping of the valves. Pilot conducts sufficient electric power to directly operate the simple rugged relays. Merely pushing a button puts the pilot in operation, thus raising electrode voltage to sparking point and opening the pilot solenoid valve. If fully automatic operation is desired, a relay may be substituted for manual push button. When pilot is lighted, release of button restores voltage to its original lower value and cuts in the relays which close, allowing fuel to flow to burners.

THE PARTLOW CORP., Dept. EP, 2 Campion Road, New Hartford, New York.

When inquiring specify EP880. . . see information request blank, pgs. 13-13

"PLASTERGRIP"

Can Be Used Over Damp or Wet Walls

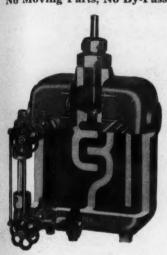
Uses-For use as a primer in severe conditions such as wet walls.

Features-Can be applied to damp or wet walls even though there is a high percentage of alkalinity present, and there is no danger of discoloration from "lime-burns." Covers 800 to 1000 square feet per gallon. No objectionable odor. Dries satisfactorily. Maker states that one coat of "Plastergrip" seals a plaster wall so effectively that a single coat of gloss paint holds its luster and color when applied over this priming. Succeeding coat of flat paint exhibits none of chalkiness usually shown over porous undercoats. No flashing. Primer may be painted over in 48 hours, and in less time under favorable condi-

GILLESPIE VARNISH COMPANY, Dept. EP, Dey and Howell Sts., Jersey City, New Jersey.

When inquiring specify EP881. . . see information request blank, pgs. 1841

Steam Trap - - Drainator No Moving Parts, No By-Passes, Visual Indication



Uses — For the complete and continuous removal of condensate, air and noncondensible gases from lines on steam processing equipment. Drainators are also used as principle units of closed return systems for installation on paper mills and other machinery requiring this type of system.

Features — Unit has no moving parts, no by-passes and simplified piping as unit fits into line like a valve. Water gauge gives visual indication of operation. Supported by pipes and no brackets are

necessary. Only one adjustment needed for a given location.

Description—Drainator has stainless steel stem and orifice. Rugged main casting has been streamlined. Shutoffs on each fitting. Gauge glass specially designed for this service, and ball checks eliminate hazard should glass be broken. Blow-down valve built into gauge glass fitting. Stem easily removable for inspection by unscrewing nut. Operates under pressure or vacuum. Simple in design and simple to install and maintain.

COE MFG. CO., Dept. EP, 500 Bank Street, Painesville, Ohlo.

Then inquiring specify EP882. . . see information request blank, pgs. 12-13

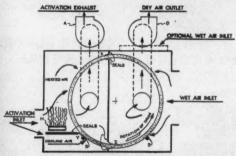
DEHUMIDIFIER

Rotary Type - Silica-Gel Adsorbent

Uses—Designed for independent control of humidity and temperature—air drying for manufacturing processes or in connection with air conditioning for comfort.

Features—Removes moisture from air by physical adsorption process. Uses silica-gel as solid adsorbent. Air humidity is controlled as a direct operation without resort to low temperature cooling. Maker states these models are greatly reduced in cost (approx. one-half of previous models).

Performance Test—Demonstration made in large closed room with about 50 people present. Live steam and heat were released until instruments indicated a room atmosphere of 95 deg. F. and 135 grains moisture per pound of



Schoolie Stagron Styden Solvery Schoolst filer
air. Unit was then started and in less than 20 minutes,

the moisture was reduced to 50 grains per pound and the temperature reduced to 72 deg. F.

Description—Designed for use with gas as activating

Description—Designed for use with gas as activating medium, but models are available for work with high

pressure steam. Silica gel adsorbent material is carried in a cylindrical basket which turns continuously. Both the conditioned air and heated air streams are continuous and simultaneous in flow. Dividing seals inside the cylinder separate these two air streams. Two models available. Engineering Bulletin No. 336 gives complete specifications.

BRYANT HEATER CO., Dept. EP, 17825 St. Clair Ave., Cleveland, Ohio.

When inquiring specify EP883. . . see information request blank, pgs. 12-13

Reduction Crusher

All Steel . . . Operates at Higher Speed



Uses—For handling large tonnages of stone or ore.

Features—Although working on gyratory principle, it operates at higher speed than ever used before. Has a crushing stroke selected for high capacity and cubically shaped product. All steel construction gives strength and conserves weight. Is assembled and ready to set on founda-

tions without dismantling at plant.

Description—Of simple construction, spider and top shell being cast integral, and readily removable for replacing of manganese steel concave ring. Adjustment for taking up wear on this liner and on special manganese steel mantle easily accomplished by simple oil filled hydraulic jack, located in bottom plate of crusher and which supports main shaft. Jack arrangement also provides product size adjustment. Safety valve permits automatic adjustment for tramp iron.

Drive is by means of high speed cut steel gears located in bottom shell, operated in bath of oil, cooled in external cooling tank. Counter shaft driven by flat belt or Texropes from electric motor or engine. Dust seals keep working parts clean.

ALLIS CHALMERS MFG. CO., Dept. EP, Milwaukee, Wis.

When inquiring specify EP884. . . see information request blank, pgs. 12-13

Abrasive Paint Coating

Prevents Slipping on Steps . . . Protects Surfaces from Abrasive Actions

Uses—This paint forms an abrasive plating of a refractory

nature that withstands severe abuse. For coating wood,

metal or concrete steps, ramps or inclines to prevent slipping. Protects ventilator fan blades which are placed over grinding wheels. Provides rugged wearing surface for coal shute, etc.

Features—This new abrasive paint, called Armor-Plate

No. 419, is made by mixing refactory flakes of micaceous metal ore into a varnish vehicle. Flakes are about the size of emery. As paint is spread, a plate of "metal armor" is formed.

Its toughness is indicated by fact that knives can be sharpened on its surface. Efficient as a metal protector. Color: gray or aluminum. May be thinned with turpentine but coal tar base high flash solvent naptha is preferred.

Resists inorganic acids except hydrofluoric. Will not resist organic acids. Is inflammable, but not explosive. Coverage per gallon, 1 coat, 600 sq. ft., 2 coats, 400 sq. ft. Dries in 10 to 14 hours. Withstands temperatures up to 450 F. UNITED LABORATORIES, INC., Dept. EP, 16801 Euclid Ave., Cleveland, Ohio.

When inquiring specify EP885. . . see information request blank, pgs. 12-13



SCOOP—TRANSPORT—DUMP Loose Materials This Money-Saving Way

With New Elwell-Parker Power Scoop Trucks to help your industry handle its own particular loads.

This advanced Elwell-Parker loads, transports and dumps loose materials (not packed nor caked) such as stoker coal, chemicals in bulk, complete fertilizers and fertilizer ingredients, etc.

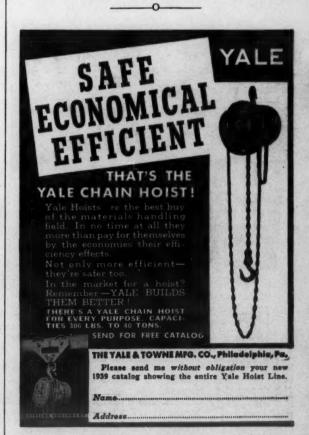
Electric or gas-electric power. Capacity ½ to 1 yd. Scoop can be power-rotated more than 100°. Loads elevated and lowered by power from separate motor. Dynamic brakes and other safety appliances. Speedy and dependable at all times.

Write or WIRE COLLECT today for illustrated Bulletin—please specify materials and your present methods of handling them.

The Elwell-Parker Electric Co., 4239 St. Clair Ave., Cleveland, Ohio

ELWELL-PARKER Power Industrial TRUCKS

When inquiring specify EP886. . . see information request blank, pgs. 12-13



When inquiring specify EP887. . . see information request blank, pgs. 12-13

Proven Dependability KNOWN THE WORLD OVER * METERING R ALL CONTINUOUS SYSTEMS . . . These pumps are particu larly designed for metering and injecting acids, causties. inhibitors, phosphates, solvents, emulsions, dyes, molten materials, etc., and are equipped with suitable check valves and adjustment contrels to maintain correct volume at high or low pressures. Let us work with you on your fluid processing problems. HILLS-McCANNA CO. s-McCanna CHEMICAL PROPORTIONING PUMPS

When inquiring specify EP888. . . see information request blank, pgs. 12-13 0

Elliott Turboblower pumping CO, gas in a sugar refinery. Small, but good for 1000 to 8000 c. f. m., 4 to 12 lb. pressure.



P-1045



Centrifugal Blower Dept. Peterson St. JEANNETTE, PA.

Elliott blowers are serving process industries in the handling of practically all gases with capacities anywhere from 1000 c. f. m. up, pressures from 1 to 100 lb. gauge. They are built of materials to resist corrosion or erosion and are adaptable to a wide variety of special conditions. Elliott Company builds the driving motor or turbine as well as the blower, with speed-increasing gears where required.

process

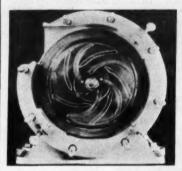
industries

If you have a process problem involving blowing or exhausting, take it up with the experienced Elliott engineering staff.

When inquiring specify EP889. . . see information request blank, pgs. 12-13

GLASS PUMP

Centrifugal Type . . . for Handling Corrosives



Uses-Handles wide range of corrosive acids and chemical fluids in commercial quantities . . . hot acids or brine cooled liquids may be pumped with equal (Handles facility. hot muriatic acid. economically.)

Features - Made of "Pyrex" heat and shock resisting glass, pump impeller and casing are not af-

fected by temperatures up to 150 degrees F. in standard design and 200 degrees F. in special design. Fully transparent, the interior of the pump and material being han-

dled can be examined at any time. (See illustration of section.)

Dis - assembly, for cleaning, is quick as whole interior may be laid open in a few minutes. Proper adjustment is practically automatic.



Description-Of centrifugal type, pumping action is secured from force of rotating liquid. Casing as well as rotating impeller and all parts in contact with corrosive liquid are of clear, chemical resistant glass. Rotor is accurately balanced and, running at high speed without appreciable vibration, the pump handles 6000 gallons of acid or other liquid and will deliver it 70 ft. above suction level.

NASH ENGINEERING CO., Dept. EP, South Norwalk, Conn.

When inquiring specify EP890. . . see information request blank, pgs. 12-13

Automatic Speed Control

50 Speeds Withing The Range

Uses - Application examples include change in the level of a liquid with a float, change in pressure with a diaphragm or piston, change in diameter of a winding roll, the movement of a tool in a machining process similar to a



boring mill, or any one of many different movements, depending upon the process or machine.

Features-Inexpensive, and is completely automatic variable speed system. Provided with over-travel to prevent damage to switch mechanism. Power required to move control lever is only 12 ounce inches. Lever can be used as manual pre-setting device.

Description—3 H.P. "Speed-Trol", 4:1 infinite speed varition, with 30:1 type "B" "Slo-Speed" gear reduction giving output shaft speeds of 60 to 15 R.P.M., arranged with electric automatic control. Motor is 3 phase, 1800 R.P.M., constant speed. All contacts in entire system are "quickbreak" and completely enclosed.

STERLING ELECTRIC MOTORS, Inc., Dept. EP, Telegraph Road & Atlantic Bivd., Los Angeles, Calif.

When inquiring specify EP891. . . see information request blank, pgs. 12-13

EFFICIENT Screening PAYS DIVIDENDS

 Link-Belt Vibrating Screens assure exact and careful screening, in greater volume at lower cost. The vibration is uniformly distributed and maintained, mechanically. The screen cloth surface is entirely cloth surface is entirely unobstructed—no "dead" areas. Low in first cost—low in maintenance—an economical screen to operate. It is a triumph of mechanical vibration. Send for Book No. 1562.

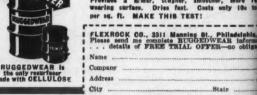
Link-Belt Company, Philadelphia, Chicago, Indianapolis, Atlanta, San Francisco, Toronto, or any of our offices, located in

of our offices, located in principal cities.





RUGGEDWEAR RESURFACER, made with Collules, may be used for paths concrete or over an entire area . . . indoors or out. No chopping or chips required. Merely aweop cut the spot to be repaired mix the material—"revuel it on. Holds solid and fight up to the irregular concrete edge . . . leave joint or cravice to become chipped and filled with a provided a firmer, trusher, smoother, more requesting surface. Dries fast. Costs only 10e to per se. ft. MAKE THIS TEST!



When inquiring specify EP893. . . see information request blank, pgs.